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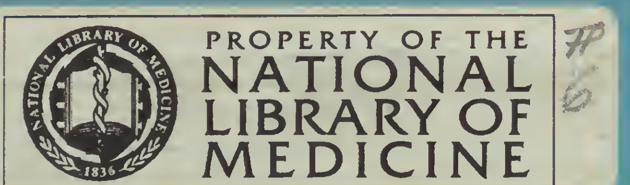
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ASOCIACION MEDICA DE PUERTO RICO

Editorial:

Presentation of Federico Hernández Morales, MD, MACP

1994 Laureate of the Puerto Rico Chapter American College of Physicians

—*By: Elí A. Ramírez, MD, FACC, MACP*

When our Governor, Dra. Lillian Haddock invited me to do the presentation of Dr. Federico Hernández Morales at this function, I jumped at the opportunity. Not because I felt that Fico needs to be presented to this group but for the personal pleasure it gives me to participate in awarding him this honor. I would like to tell you why.

I first knew of Dr. Hernández Morales during my medical residency at the Milwaukee Country General Hospital when I would be assigned to discuss articles at journal clubs. It was with great Puerto Rican pride that I would frequently present reports from our School of Tropical Medicine. Prominent among these contributions was Dr. Hernández Morales' work. Later, when in 1950 I joined the staff of the San Juan Veterans Hospital at San Patricio, I finally met the man who had been a source of my pride on the scientific achievements of our school. He was then our consultant in gastroenterology and highly regarded, not only by our medical service staff but by the other departments as well. I well remember how respected he was by our then chief of radiology, Dr. Laszlo Ehrlich (RIP), whose principal area of expertise was gastrointestinal radiology and who was quite discriminative in dispensing praise.

But I am jumping ahead of my story. All of you have received the curriculum vitae of Dr. Hernándes Morales in your registration package; I will gloss over it and fill in some additional details.

The beginning was in the town of Vega Alta where Fico was born on the 18th of July of 1911. After his primary education in the town's public schools, he attended the University of Puerto Rico for his premedical training. In 1935, he received his MD degree from the Medical College of Virginia, and then returned to Puerto Rico for his internship at the Presbyterian Hospital.

Upon completing his internship, Dr. Hernández Morales joined the staff of the School of Tropical Medicine, a relationship that would endure until the disappearance of the school in 1951. He completed his formal training in internal medicine in 1939, and then went to the University of Chicago for training in gastroenterology and endoscopy under two of the legendary giants in those fields: Dr. Walter Palmer and Dr. Rudolph Schindler. He returned to the School of Tropical Medicine in 1940 and was appointed Medical Director.

Thus began a period of extraordinary achievements by our laureate. However, there was a brief intermezzo by Cupid that resulted in his marriage to Teresita Denton in 1942. More about that later. Suffice to say that this distraction did not seem to dampen Dr. Hernández Morales' ardor for scientific pursuits since it was mainly during the subsequent decade that he carried out most of his important research on some of the principal health problems of Puerto Rico at the time, e.g.: Brucellosis, Anemia, Malnutrition, Tropical Sprue, Schistosomiasis, Malaria and Filariasis. This endeavor eventually led to more than 90 original scientific papers, several textbook chapters, and numerous presentations at scientific meetings and congresses in Puerto Rico and all over the world. Along the way he held a visiting professorship in Tropical Medicine at the University of Tulane and spent another year of training in gastroenterology under the tutelage of another giant, Dr. Henry Bockus of the Graduate School of the University of Pennsylvania.

Nowadays, we seldom give a thought to the great significance of those years to Puerto Rican medicine. There was of course World War II, which disrupted everything and affected everyone. Dr. Hernández Morales was appointed Medical Director of the Emergency Medical Services for San Juan, and later consultant in tropical medicine to the Army Medical Department. But more than that, the war helped to nurture the long held wish for a first class medical school in Puerto Rico.

That there would be disagreements, frustrations, arguments and controversies was to be expected. It is indeed sad that in the process, many of the structures that had been created by and for the School of Tropical Medicine were sacrificed. However, it was fortunate that there were men like Dr. Hernández Morales who remained to play a prominent role in the creation of the new medical school. These men set the standards that we now admire, and we must be eternally grateful to them for their participation.

Here we rejoin the beginning of my talk as it was at that time that I returned to Puerto Rico, after my residency training. One of the physicians at the VA Hospital, Dr. José A. de Jesús became associated with Dr. Hernández Morales in the gastroenterology section. Between them, they created a tradition of excellence in gastroenterogy at the hospital that persists to this day. I understand that they jointly renamed an essential GI diagnostic instrument after a Mexican movie star who was popular at the time. The name was clever and spread throughout the medical community, improving communications, in the end.

During the fifties, Dr. Hernández Morales' scope of activities expanded to other areas. In 1952 he was elected president of the Eastern District Medical Society, and in 1954, president of the Puerto Rico Medical Association. In 1957 he became Governor of the American College of Physicians for PuertoRico, a position he held with distinction for nine years. One of his most significant contributions to the College was his participation in the Latin American Scholarship Committee sponsored by the Kellog Foundation. This program still remained active when I chaired the International Medical Activities Committee of the College a few years ago. Dr. Hernández Morales had been a Fellow of the College since 1943. In 1980, his stature as a clinician and teacher, his international prestige in Tropical Medicine, his leadership in advancing high standards for medicine in Puerto Rico, and his contributions to the College were recognized through the conferring of the title of Master of the American College of Physicians; the third Puerto Rican internist to be thus honored.

Dr. Hernández Morales has received may other titles, lectureships, honorary memberships, and awards. However, we don't have the time to relate them all. Suffice to say that we have before us a most distinguished Puerto Rican physician who has placed highly the name of our island wherever he has gone. Let me end with some comments that probably are even more important.

I mentioned in passing our laureate's marriage to Teresita Denton in the early 1940's; a union of over fifty years, an exceptional rarity these days. Of their children, one is a Supreme Court justice and the other two have followed in their father's footsteps and became gastroenterologists. It has been said that behind every outstanding man there is an outstanding woman. I don't know who deserves what share of the credit but boy, what an outcome! What is obvious is that the Hernández-Denton union produced an exemplary model of the Puerto Rican family.

But our laureate is an example to us as physician in many other ways. How many times have you seen him at medical meetings, bright and early, seating in the front row, for the first paper of the morning? He has been the eternal student, always questing for knowledge, always with the wise comment and the sage question. And his thirst for knowledge has not been limited to the field of gastroenterology. I know this for a fact because some of the questions in cardiology he has asked me indicate a profound knowledge of my field. It is perhaps for this reason that Dr. Hernández Morales has become the complete internist that he is. His dictum is that the better internist you are, the better gastroenterologist you wil be. Thus, he has conquered the limitations of sub specialization and can represent with authority both the sub specialist and the all-around clinician.

It is no surprise therefore, that Dr. Hernández Morales has achieved the success that he has in medical practice. He has kept up with the intricacies of modern medicine, not only in his field but in others as well.He is a rarity in our medicine of today. A man at ease with Laennec and also with the polymerase chain reaction. A man who treats duodenal ulcer, but also can handle creditably the other medical problems that his patients may have. And couple this with his ability to inspire confidence, his eagerness to serve, his ready smile, and his gentle attitude that impart to his patients the certainty that their best interests are uppermost in his mind. And that all this continues 60 years after graduation from medical school is absolutely amazing. No wonder his patients remain steadfast and faithful over the years. Again, what an example for the rest of us!

It is customary to end these presentations with a summary of the honoree's qualifications. My friends, let me assure you that this whole presentation has been a summary. Nevertheless, I believe I have accomplished what I set out to do: to explain to you why I am so pleased that our chapter has decided to bestow its 1994 Laureate Award on Dr. Federico Hernández Morales; our very own Fico. I am honored to be a participant in this ceremony.

Thank you.

Articulos Originales:

A Descriptive-Exploratory Study of Outcome and Some Biopsychosocial Characteristics of Drug Dependent Veterans in Puerto Rico

Done by: Erick F. Santos, M.D., P.I.
Diana Díaz, M.D., Arlene Martínez, M.D.,
Eneida Gómez, M.D., Gladys N. Visbal, M.D., M.P.H.

Summary:

I. Objective

The authors attempted to correlate outcomes with various significant biopsychosocial variables in drug dependent veterans receiving outpatient treatment at San Juan V.A.M.C.

II. Methods

The clinical charts of 120 inactive patients were examined using a 50 item questionnaire. The data was processed and analyzed using the EpiInfo v.5 computer program.The outcome of the patients was measured using a Goal Attainment Scale Technique with demonstrated validity and reliability.

III. Results

The patients retention in treatment for 12 or more visits and its relationship to good outcomes was the most significant finding of this study (P<0.00000000, 80.5% of patients improved). Only 5% of patients with 3 or less visits showed positive outcomes. Another variable associated with good outcomes was a supportive wife (P<0.02). HIV reactivity was strongly correlated with IV drug use (P<0.037).

IV. Conclusions

The strong correlation of the retention of patients in treatment for 12 or more visits and good outcomes should alert clinicians and policy makers as to the importance of available and effective treatments in the fight against substance abuse and mental health problems. This study also showed that a supportive family member is usually the best social asset that patients and therapists have in their fight for sobriety.

Introduction:

This is a Descriptive-exploratory, naturalistic study of the Biophychosocial characteristics of Drug Dependent Veterans that asked for outpatient treatment and their relationship with outcomes. The records of these discharged patients were examined and studied.The study was undertaken at the San Juan VAMC Drug Dependence Treatment Program in 1993. We feel this type of study, conducted on Historical Naturalistic Clinical Data should help us to get a clearer picture of this population and their problems. This should help us to design better treatment strategies. This study open new avenues (hypothesis) of study to facilitate a better understanding of these patients and their families. Another evident result shoul be the retention of clinical data for succeding studies. Also we expect to develop the interest of medical students, psychiatric residents and health professionals in studying and helping these patients.

In addition to the previous expectatives, we have interest in defining the relationship between certain variables mentioned in the literature and the treatment outcomes results of the patients. (1) Also we want to determine the degree of progress in the patients and its relationship to the exposure to treatment. (2) This study should be of great interest to psychiatrists and other people involved in the treatment and prevention of these mental health disorders.

Methodology:

Data was extracted from 120 inactive clinical charts by medical students and staff of the clinic.50 item questionnaire was developed to extract the clinical data from the charts prior to their storage outside the clinic. The data was processed using the EpiInfo v.5 computer program for the scientific analysis of data, a system developed by the C.D.C. (Centers for Disease Control), a Federal Agency. (3) This computer program

Sponsored by the San Juan V.A.M.C. and by The U.P.R. Medical Sciences Campus, Department of Psychiatry.

will help us in the analysis of the data so that a correct computation and statistical analysis could be completed. In order to cope with time constraints charts were selected consecutively from the file, a convenience sampling technique.

The study technicians were trained prior to their search for data in the records. Also, they had at least one of the authors available to clarify doubts while completing the 50 item questionnaire.

The progress of the patient on the treatment was measured by means of a technique for evaluation called the goal attainment scale; a global assessment scale with demonstrated validity And reliability(4).

The questionnaire explored 50 clinical important areas with over 80 variables to be measured as present or not present. Also some essential demographic data was included like age, marital status, date of birth, date on admission and vocational and educational attainments, these variables were correlated with patient outcome.

Description of the Clinic:

The San Juan VAMC Drug Dependence Treatment Clinic is a multimodalic, multidisciplinary, methadone-free outpatient service for veterans with drug dependence, drug abuse and other concomitant mental health disorders. The clinical staff consists of a psychiatrist coordinator, a social worker, a vocational rehabilitation specialist, three non-professional counselors. They offered psychopharmachotherapy, individual and group supportive counseling and psychotherapy, family counseling, HIV pre and posttesting counseling and conjoint interventions with other VAMC and community treatment programs (6). The clinic is accredited by the joint commision on accreditation of health organizations.

The patient was considered to have attained a good outcome when he showed an increase in the Goal Attainment Score of at least 10 units (equivalent to one standard deviation) from a dysfunctional status and an increase in score of 5 from any functional initial status. An example of a barely functional patient is one that abuses illegal drugs or alcohol only under severe stress, shows mild evidence of physical dysfunction, shows mild to moderate anxiety or depressive symptoms once a month, is not engaged in criminal acts, has at least one drug-free friend or have been able not to quarrel with other family members, spends most of his time with his non-drug using relatives or with non-drug using friend, cooperates in doing necessary home tasks, starts to work outside home or to study and is able to assure adequate standards of feeding, clothing and shelter (4)(7).

General Results:

Table I: Outcome of Patients

1- All patients that visited the clinic at least once. (n=120)	positive outcome	52.5%
2- Patients that visited 3 or less (n=20)	positive outcome	5%
3- Patient that visited 4 to 11 visits (n=35)	positive outcome	25.7%
4- Patients that visited 12 or more visits. (n=65)	positive outcome	80.5%

Table II: Patients Demographic Characteristics

Mean age on admission	35.41
Married	54.00%
Average years of education	12
Technical occupation	25.60%
Completed college education	2.50%

Table III: Patients Personal Characteristics

IV Drug Use	59.30%
Nasal Drug Use	39.8%
Smoking	55.60%
Oral Route	22.80%
Previous Treatment	33.10%
Success in Previous Treatment	10.40%
Completed Military Tour	83.00%
Vietnam Combat	27.00%
PTSD Symptoms	6.70%
Neuropsychiatric VA Compensation	30.20%
100% Neuropsychiatric VA Compensation	14.30%

(Continue)

Table III:

Social Security Pension	37.10%
Years of Education (average)	12 years
Homeless on Admssion	5.50%
Legal Problems	22.70%
Alcoholism in Paternal Family (usually the father)	31.00%
Alcoholism in Maternal Side	8.90%
Patients with 3 or less visits	16.60%
Patients with 4 to 11 visits	29.10%
Patients with 12 or more visits	54.19%
Hospitalized once a year	41.20%
Hospitalized twice a year or more	15.10%
HIV Reactive	27.90%
Naltrexone Use	23.80%
Reported Heterosexuality	96.00%
Reported Bisexuality	2.00%
Reported Homosexuality	2.00%
Attendance Motivated by Wife	14.50%
Attendance Motivated by Legal Problems	18.50%
Attendance Motivated by Physical health	8.10%
Attendance Motivated by Personal Interest	44.50%
Attendance Motivated by Monetary Reward	2.00%
Attendance Motivated by Hospital Staff	13.00%
Affective Disorder Diagnosed	32.30%
Father Missing in Childhood	29.20%

Other Results

The patients showed a mean age of 35.41 on admission with 7.51 standard deviation. Strong Statistical Relationships:

(1) High Human Bonding was strongly related (Has a supportive wife) to a good outcome (an increase of goal attainment score of more than 10 units below the 50 score and 5 units above the 50 score). Statistic test: Yates Corrected Test = $P < 0.02$.

(2) More than 3 months of treatment showed a huge positive relationship to a good outcome using the Yates Correctes Test = $P < 0.00000000$ that was the same statistical result of treatment for more than 12 visits in the first year of treatment versus a good outcome variable.

(3) HIV reactivity showed a strong relationship to IV Drug use of Yates Corrected Test = $P < 0.037$.

(4) Cocaine plus alcohol dependence was strongly associated with a liver cirrhosis diagnosis with a statistical relationship in the Fisher Exact Test and Two Tail = $P < 0.016$.

(5) Vietnam Combat Experience was strongly related to post-traumatic stress symptoms, using the Fisher Exact Test and Two Tail = $P < 0.00096$.

(6) Vietnam Combat Experience was strongly associated by the time of admission with a spiritual state of peace with himself using the Yates Corrected Test = $P < 0.01$.

(7) High Human Bonding showed a strong negative relationship with a feeling of low self-esteem using the Fisher Exact Test and Two tail = $P < 0.0036$.

(8) From the whole population studied 52.5% showed a good outcome. Those patients who stay on treatment more than 11 visits in their first year of treatment showed an 80.5% rate of good outcome. The patients who visited less than 12 visits but four or more visits showed 18.2% rate of good outcome.Those who visited less than 4 visits showed a 5% rate of good outcome.

Discussion:

The results from Table I showed that the clinic retained in treatment 54% of patients for the amount of time (more than three months) and frequency of visits (12 or more visits) necessary to assure a positive outcome in 8 of every 10 patients as measured by the Goal Attainment Scales. Patients with less visits showed only a 31% of positive outcome. Due to the inherent difficulties in treating these population of mentally ill veterans with Comorbid substance dependence and abuse problems and HIV reactivity and disease; we consider this a meritorious performance. It appears obvious from these data that the retention of patients and extension of exposure to treatment are essential factors in the promotion of mental health in this population. As a consequence all activities that promote the retention of patients in

treatment have the potential to improve the effectiveness and therapeutic impact of programs upon this population (7)(8)(9)(10)(11)(12)(13). We have been applying into our therapeutic activities through the incorporation of effective modalities, the capacitation of clinical staff and the attention to the patients clinical needs as has been certified by the Joint Commission on Accreditation of Health Organizations.

Table II and Table III showed that most of our patients had used intravenous drugs, has a poor history of success in other treatment programs, had some marital support, was able to complete their full military tour; were non-service connected, did not participate in combat duties, had a high school education and presented a Heterosexual preference. This tend to indicare that most of these patients had good intellectual capacities and had enough capacity to relate to others at least when in structured supportive environments like the armed forces, within a family environment or within a therapeutic environment. Also indicates a persistent drug dependence problem in most of these veterans.

The 30% of Neuropsychiatric compensations indicate that this specific group of veterans their mental health became dysfunctional during their military experience. The 41.2% of veterans who needed a yearly psychiatric hospitalization tend to indicare their need for specialized support in coping with their current mental health problems.

The 44.5% who reported that his attendance to treatment was motivated by a personal interest in their improvement indicates that in spite of their persistent drug dependence and mental health problems. This group still has faith in their rehabilitation. The 27.9% with an HIV reactive test (western blot) indicates that this population is in need of long term health care and is of course a strong reason that justifies the availability of these specialized mental health services. This is even more relevant for the HIV nonreactive group in terms of prevention of relapses into active substance abuse that may lead into exposure to the virus through sharing of syringes or true sex with infected persons.

The findings of increases in post traumatic stress symptoms in former Vietnam Combat Veterans was expected. However, the strong correlation between Vietnam Combat experience and a state of personal spiritual peace merits further study. The involvement into activities that promote peace with themselves, peace with others and peace with a higher power has helped other substance abusers to attain sobriety and better social functioning as is reported by some alcoholic anonymous and narcotic anonymous participants. These self help groups base their help in attaining a state of better spiritual functioning. A hypothesis to be studied could be that of severe personal traumas motivate the look for spirituality in most persons.

Another important finding is the fact that a supportive wife (we assume that it reflects the capacity of the husband to establish a positive human bonding) was strongly correlated positively to a good outcome and negatively with a state of low self-esteem. It implies that to teach people the social skills needed for the establishment of supportive marital relationships is essential for tgheir future capacity to overcome mental health and substance abuse problems. this hypothesis merits further scientific study.

The stronger finding was the huge difference in positive outcomes between those who remained in treatment more than 12 visits (or 3 months) versus those who did not. Obviously there must be multiple factors involved in these results. Factors related to the patients motivations and beliefs, those related to the program's therapeutic effectiveness and those factors related to the patients supportive persons seems to be the most significant in explaining these findings.

Conclusion:

The strong correlation of the retention of patients in treatment for 12 or more visits and good outcomes should alert cinicians and policy makers as to the importance of available and effective treatments in the fight against substance abuse and mental health problems. This study also showed that a supportive family member is usually the best social asset that patients and therapists have in their fight for society. The study suggests that unusually adverse life experiences were strong motivators for spiritual improvement in Drug Dependent Vietnam Veterans and perhaps other human beings. Another hypothesis for a future study should be that the teaching of the skills necessary to attain supportive marital relationships may help veterans to have better mental health and less need for substance abuse and dependence behavior.

Resumen:

I. Objetivo

Los autores correlacionaron los resultados terapéuticos con variables de importancia clínica en el tratamiento.

II. Metodología

Los expedientes clínicos de 120 veteranos ya dados de baja fueron estudiados usando un cuestionario donde se examinaron 50 variables. Los datos fueron analizados usando el programa EpiInfo v.5. Los resultados terapéuticos fueron medidos usando una técnica válida y confiable llamada el "Goal Attainment Scale Technique".

III. Resultados

La correlación positiva extraordinaria que se obtuvo entre buenos resultados de tratamiento y el número de visitas de los pacientes al programa (más de 12 visitas versus buenos resultados, (P< 0.000000001) fue el hallazgo más significativo. Pacientes con 3 o menos visitas sólo el 5% demostró resultados positivos comparados con el 80.5% de los pacientes con 12 o más. Otra variable correlacionada positivamente con el tratamiento fue el tener buen apoyo de la esposa (P< 0.02).

IV. Conclusiones

Estos hallazgos nos deben alertar a que se desarrollen más programas que faciliten la retención de los pacientes en programas efectivos para poder impactar con más fuerza los problemas de salud mental y adicción. Además, el estudio nos señala la gran importancia clínica que tienen los familiares en la obtención de buenos resultados terapéuticos.

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Trichobezoar in a 11-year old girl: A Case Report

Carlos A Santiago Sánchez, M.D.* Priscila Garau Díaz, M.D.**
Humberto L. Lugo Vicente, M.D., FACS, FAAP***

Summary: *Bezoars are masses of solidified organic or non-biological material commonly found in the stomach and small bowel. Identification, therapy, and long-term management of patients with bezoars depends on accurate classification and knowledge on the pathophysiology of formation. Four types of bezoars have been described based on their composition: phytobezoars, trichobezoars, lactobezoars, and miscellaneous.*

Pediatric trichobezoars are associated to emotional disturbed children with aberrant appetite (trichophagia). Hair strands become retained and attached in the folds of the gastric mucosa because the friction surface is insufficient for propulsion by peristalsis. They generally are asymptomatic until enlargement produce pain, compression or intestinal obstruction. Bezoars are diagnosed with conventional radiology and gastroscopy permits identification of its nature.

Currently, management of bezoars consists of: dissolution, suction, lavage, mechanical endoscopic fragmentation using pulsating jet of water, fragmentation with extracorporeal shock wave lithotripsy and surgical removal. Treatment should also focus on prevention of recurrence, since elimination of the mass will not alter the conditions contributing to their formation.

Introduction

Bezoars are masses of solidified organic or non-biological material commonly found in the stomach and small bowel. They have been known for centuries and continues to be a challenging therapeutic dilemma for surgeons and gastroenterologists alike.

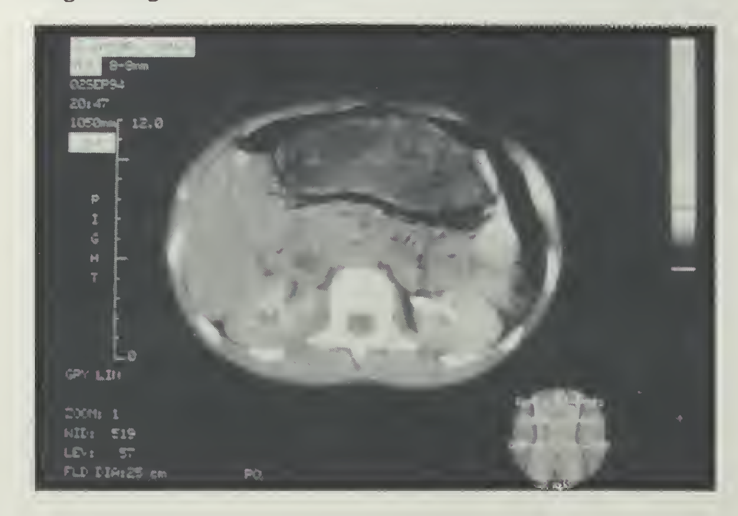
The identification, therapy, and long-term management of patients with bezoars depend on accurate classification and knowledge on the pathophysiology of formation. Four types of bezoars have been described based on their composition: phytobezoars, trichobezoars, lactobezoars, and miscellaneous.[1]

We describe a case of a gastric trichobezoar in a pediatric patient managed sucessfully with surgery.

Case History

An 11-year old white girl, 6th grade student, was admitted on September 4, 1994 to the University Pediatric hospital complaining of a sensation of fullness at the epigastrium, vague feeling of epigastric distress, nausea and anorexia. One day before admission a plain abdominal film done at the Local Health Center showed a large radiopaque image filling the stomach and suggesting an intra-abdominal tumor. The patient was transferred to our supra-tertiary institution for further evaluation and management. Computerized Abdominal Tomography using oral and intravenous contrast material showed a large gastric bezoar (see Fig. 1). Further questioning of the child revealed epigastric complains for months and she confirmed "eating hair when nervous". The family and social history uncovered that her mother was a psychiatry patient and the father an alcoholic with frequent domestic fights, claiming the child responsible for the household crisis. Furthermore the mother menaced the child by telling her "she was going to kill her". Psychiatry evaluation revealed a depressed, frightened, neglected child that relieved her anxiety by eating her hair (trichophagia).

Fig. 1: Computerized Abdominal Tomography view showing a large intragastric solid mass



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Physical examination revealed a skinny girl with pale conjunctiva. A large, firm, oval shaped, non-tender and mobile mass was palpable at the left upper quadrant of the abdomen. The mass extended from the distal margin of the left rib cage to approximately 2 cm above the navel. On the right side the mass was palpable beyond the midline to the right niple line. There was no guarding, rigidity or tenderness. No alopecia was noted in the child. The rest of the physical examination was essentially negative.

Laboratory work-up upon admission exhibited a mild hypochromic microcytic anemia (hemoglobin 11.9 gm/dl, and hematocrit 35.6%). Normal coagulation profile, urinalysis, electrolytes, amylase, lipase, and liver function tests. A plain chest film was normal.

The upper gastrointestinal series displayed a large intraluminal space occupying mass lesion with a honey-comb appearance that filled the stomach contour with extension into the proximal duodenum (see Fig. 2).

Fig. 2: Upper contrast gastrointestinal study using barium demonstrating the intragastric bezoar with the characteristic honey-comb pattern.



Upper endoscopy showed a normal esophageal mucosa. The stomach contained a very large, black, hairy ball extending through the pylorus. The gastric mucosa appeared normal without evidence of ulceration. A significant foul, nauseating smell was noted. Biopsy confirmed the hair-nature of the bezoar.

Although fragmentation with Extracorporeal Shock Wave Lithotripsy was considered, the huge size of the bezoar along with the proximal extension to the duodenunm contraindicated its use and no further attempt was done. The child was taken to the operating room and the bezoar removed without difficulty using an anterior longitudinal gastrotomy incision. The mass had the shape of the stomach and proximal part of the duodenum, a brilliant surface and a putrefactive odor (see Figure 3). The gastric mucosa was normal and not adhered to the mass.

Fig. 3: Gastroduodenal bezoar assuming the shape of the stomach and proximal duodenum.



Oral feeding were resume on the 6th postoperative day. The child discharged home after adequate psychiatry assessment and therapy.

Discussion

The word "bezoar", comes either from the Arabic word "bedzehr", or the Persian word "padzhar", meaning protecting against a poison or an antidote[2,3]. In ancient times the solid mass occasionally found in the stomach of a goat or an antelope was thought to have magical healing powers and even rejuvenating properties[4]. Medicinal qualities and omens of good luck were also attributed to bezoars[2]. In modern medicine, however, the concretion found in the stomach and intestine of humans and referred by the term bozoar is known to be associated not with such positive effects, but with significant morbidity and even mortality[5].

In children four types have been described based on their composition:

(1) phytobezoars composed mainly of vegetable or fruit fiber,
(2) trichobezoars, comprise mainly of hair,
(3) lactobezoars made of milk curd, and
(4) miscellaneous (medicational or food bolus) bezoars[5,6].

Phytobezoars are the most common type of bezoars. They consist of vegetable material and indigestible cellulose fiber[7]. Persimmons seed and other fruit products are frequent reported factors in their formation. Most develop in adults patients with impaired digestion and previous gastric surgery causing dysmotility disorders such as post-gastrectomy cases for peptic ulcer disease. Ailments other than gastric surgery that has been noted to cause impaired gastric emptying includes: diabetic gastroparesis, myotonic dystrophy, and autovagotomy secondary to tumor invasion[8].

When associated with gastric surgery the stomach exhibits a diminished ability to digest, produce acid, pepsin activity, and mechanically reduce food[9].

The classically described bezoar, usually involving psychologically disturbed individuals is the trichobezoar or "hair-ball" bezoar. The trichobezoar is a concretion of hair found in the alimentary tract of animals, especially ruminants, and occasionally in man. Over the centuries these bezoars have been associated with children and emotionally disturbed adult females who ingest hair (trichophagia), carpet, rope, string, etc. The classic pediatric case is that of a partially bald child with a mass in the stomach[3]. Hair strand become retained and attached in the folds of the gastric mucosa because the friction surface is insufficient for propulsion by peristalsis[10].

Trichobezoar are seen almost exclusively in female children, 6-10 years old, with bizarre appetite (trichophagia) and emotional disturbances[1]. They may produce multiple clinical manifestations such as: large firm movable epigastric mass, fullness, bloating, regurgitation, nausea, vomiting, epigastric pain, hematemesis, and tiredness[2]. Originally the mass develops in the stomach and can move to the small bowel by fragmentation of a portion, extension or total translocation[3]. Many patients complain of early satiety, and weight loss. Other children will reduce intake and develop failure to thrive. If untreated, chronic obstruction may result in death from malnutrition or other complication such as ulceration, hemorrhage or perforation. Symptoms are intermittent and absent for many years. Rapunzel syndrome is ascribed to those gastric bezoars that have a tail-like extension of twisted hair reaching the ileocecal valve[2].

Lactobezoars have been noted during the last two decades, corresponding to the period of improved neonatal salvage. These bezoars are described in low birth weight neonates fed a highly concentrated formula. Milk products like casein congeal forming the lactobezoar[11].

There is a miscellaneous group of bezoars consisting of medications glues, antiacids, and food bolus. Food bolus that are incompletely chewed contain nuts and fiber or are trapped in narrow gastric segments[12].

Bezoars are diagnosed in most cases by conventional radiological examination (plain abdominal films, upper gastrointestinal series, ultrasonography, or computerized abdominal tomography)[13]. When an upper gastrointestinal series is performed with the use of barium, an intragastric mass with a honey-comb like surface around which the contrast medium flows may readily be observed, as seen in our experience. Gastric endoscopy is one of the most sensitive means to diagnosed bezoars, will confirm the diagnosis and determine their nature. Also, is utilized to obtain biopsy specimen to confirm their composition[2,14].

Bezoars can be managed by various means, depending on their underlying nature and location. Prior to 1959 the prevailing therapy for gastric or intestinal bezoars was surgical excision. This carried a high morbidity and mortality. Emergency laparatomy may still be necessary if the bezoar is associated with acute intestinal obstruction. Currently, non-surgical techniques of management of gastric bezoars may include: dissolution, suction, lavage, mechanical endoscopic fragmentation using pulsating jet of water, and fragmentation with extracorporeal shock wave lithotripsy (ESWL)[15,16,17]. With ESWL the shock wave needed is half than required by urolithiasis cases[17]. Intragastric administration of enzymes (papase, pancrelipase, and cellulase) or drugs (metoclopramide, tagamet, bicarbonate, acetylcysteine) has also been reported in the literature[18,19]. If those methods fail, gastrotomy and manual removal is the only means of reliving the patient. Large bezoars will generally need surgery for removal[20].

Besides dissolution or removal, treatment should focus on prevention of recurrence, since elimination of the mass will not alter the conditions contributing to bezoar formation. Psychiatry follow-up may be necessary to reduce the frequency of recurrence.

In summary, the accepted therapies for patients with gastric bezoars include: (1) observation, (2) medical dissolution, (3) fragmentation, and (4) laparotomy with gastrostomy. The treatment modality will depend on the type of bezoar involved. Treatment should not only focus on resolution of the established mass, but also prevention of recurrence, since the underlying condition contributing to bezoar formation will not be altered by elimination of the mass.

Resumen: *Los bezoar son masas compuestas de materia orgánica o no-biológica que se pueden formar en el estómago y el intestino delgado. A través del tiempo su manejo ha variado. Basado en su composición se conocen cuatro tipos: (1) fitobezoar compuestos de material vegetal inerte, (2) tricobezoar formado por concreción de pelo, (3) lactobezoar de productos lácteo cuarteados, y (4) bezoars misceláneos.*

El tricobezoar o "bola de pelo" usualmente está asociado a niño y adultos emocionalmente perturbados que suelen comer pelo (tricofagia). El pelo se retiene en los dobleces de la mucosa gástrica ya que la fricción superficial es insuficiente para propulsarlo por peristalsis. La mayoría de los bezoars de pelo ocurren en hembras entre las edades de 6 a 10 años con un apetito bizarro. Generalmente son asintomáticos hasta que obtienen un tamaño suficiente para producir dolor, compresión, obstrucción intestinal, o pérdida de peso. La presencia del bezoar se corrobora con estudios radiológicos convencionales y la gastroscopía permite identificar la naturaleza del mismo.

En la actualidad el manejo puede consistir de disolverlo localmente con enzimas orales, fragmentarlos por endoscopía o utilizando litotripsia, o si estas medidas no eliminan el cuerpo extraño removerlo a través de una gastrotomía quirúrgica. El manejo, en adición, debe enfocar en evitar recurrencia de la condición.

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Etiology and Outcome of Non-Estrogen Associated Hyperthyroxinemia in Euthyroid Patients at the San Juan City Hospital

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ABSTRACT

Introduction: Hyperthyroxinemia does not alwalys equate to hyperthyroidism. Laboratory tests should always be correlated with the clinical picture. A mismatch should make one doubt true hyperthyroidism. The purpose of our study was to assess the etiology of euthyroid hyperthyroxinemia not associated with estrogen use or pregnancy and to review the outcome of those erroneously treated.

Methods: The medical records of thirteen euthyroid patients with non estrogen associated hyperthyroxinemia were reviewed. They had a complete set of thyroid function tests including free T_3 and free T_4 by membrane dialysis, TRH stimulation test and thyroid hormone binding panel.

Results: Two diagnostic groups were identified: Hyperthyroxinemia secondary to binding abnormalities (7/13), better known as familial dysalbuminemic hyperthyroxinemia (FDH) and hyperthyroxinemia secondary to Thyroid Hormone Resistance (THR) (6/13). The FDH group had an elevated T_4 and FTI, with normal T_3RU, TSH, TRH stimulation test but an abnormal thyroid hormone binding panel which was used to confirm the diagnosis. The THR group had two laboratory presentations: Four patients presented with all the tyroid hormone tests elevated (T_4, T_3, T_3RU, FTI) including a free T_3 and free T_4 by membrane dialysis with a normal TSH and TRH stimulation test and a normal T_4 binding panel. This presentation is typical for a TRH patient with a nuclear receptor defect where all the precursos to the defect accumulate. Two patients with THR presented elevated T_4 and free T_4 but normal T_3 and free T_3, localizing the defect at the level of the active T_4 transport mechanism across the cellular membrane. These two patients had a normal TSH, TRH stimulation test and T_4 binding panel.

Two patients were treated erroneously with radioactive iodine and became extremely hypothyroid in spite of normal TFTs. Very high doses of thyroid hormone replacement were required to restore euthyroidism.

Conclusion: One must suspect these two entities in patients clinically euthyroid who have elevated T_4 but non-suppressed TSH. A normal TSH and TRH test confirm euthyroidism. A thyroid hormone binding panel differentiates FDH from THR. Neither group require treatment. If treated erroneously and T_4 drops to normal values, one must again induce hyperthyroxinemia to restore euthyroidism in these patients.

INTRODUCTION

The interpretation of high serum T_4 levels is more complicated than previously thought. There are other conditions that can cause hyperthyroxinemia in the absence of hyper-thyroidism, a term known as euthyroid hyperthyroxinemia (HT).

The differential diagnosis of euthyroid hyperthyroxinemia includes alteration in the concentration of thyroxine-binding globulin (TBG) albumin (A) and prealbumin (PA). Other causes such as autoantibodies that bind circulating iodothyronine may lead to true or spurious hyperthyroxinemia. Drugs such as amiodarone and contrast agents can also cause increases in serum T_4. Syndromes of thyroid hormone resistance can also cause excess T_4.

Excluding pregnancy and drug induced HT (amiodarone, estrogen, contrast agents, heparin and amphetamines) the most common causes of euthyroid-HT are alterations in protein binding as seen in familial dysalbuminemic hyperthyroxinemia (FDH) and the syndromes of thyroid hormone resistance (THR).

FDH is inherited as an autosomal dominant pattern. Patients are clinically euthyroid but have elevated T_4 levels and normal TSH response to TRH. The definitive diagnosis of FDH is made by the demonstration of increased T_4 binding by the abnormal serum albumin using gel electrophoresis. Thyroid hormone resistance has been described as a familial syndrome and in sporadic cases. The peripheral tissues and the anterior pituitary show a varying degree of resistance to thyroid hormone. HT develops to overcome the resistance. HT does not always equate to hyperthyroidism. Laboratory tests should be correlated with the clinical picture and any mismatch should make one doubt true hyperthyroidism.

The purpose of the study was to assess the etiology of euthyroid hyperthyroxinemia not associated with estrogen use or pregnancy and to review the outcome of those erroneously treated.

METHODS

Medical records of patients with euthyroid HT were reviewed from the Endocrinology Clinics of the San Juan City Hospital seen between 1993 to 1995. Those with HT associated to estrogen use or pregnancy were excluded. Thirteen euthyroid-hyperthyroxinemic patients were selected which had a complete set of thyroid function tests, TRH stimulation test and thyroid hormone binding panel (THBP). These thirteen patients also had free T_4 and fre T_3 done by membrane dialysis.

RESULTS

The profile of the thirteen patients is seen in Table 1. Two diagnostic groups were identified: HT secondary to binding abnormalities (FDH) and thyroid hormone resistance (TRH) with a frequency of 53% (7/13) and 47% (6/13) respectively.

The group with protein binding abnormalities showed elevated T_4, normal T_3RIA, T_3RU and elevated FTI. Baseline TSH and TSH-response to TRH was normal confirming a non-suppressed pituitary TSH by elevated T_4 levels. The thyroxine binding panel was abnormal in this group, showing mostly increased binding of T_4 to albumin or pre-albumin as seen in FDH. Case #12 is a typical example of FDH. Her free T_4 and free T_3 by the membrane dialysis method were normal [1.2 ng/dl (0.8-2.7) and 418 pg/dl (260-480) respectively]. The T_4 binding protein panel was as follows:

T_4	14.1 µg/dl	(NL 5.3-11.4)
TBG-Bound T_4	6.1 µg/dl	(NL 4.2-8.8)
Pre Albumin-Bound T_4	3.1 µg/dl	(NL 0.5-2.5)*
Albumin-Bound T_4	4.8 µg/dl	(NL 0.3-1.0)*
TBG	2.7 mg/dl	(NL 1.2-3.0)
Pre Albumin	29 mg/dl	(NL 14-42)
Albumin	4,080 mg/dl	(NL 3,200-5,500)
TBG-Bound T_4/TBG	1.7 µg/mg	(NL 1.7-5.0)
Pre Albumin-Bound T_4/ Pre Albumin	0.11 µg/mg	(NL 0.02-0.11)
Albumin-Bound T_4/ Albumin	1.8 µg/mg	(0.06-0.21)*

The group with THR showed elevated T_4, T_3(RIA), T_3RU and FTI with non-suppressed TSH and normal response to TRH. The T_4 binding protein panel was normal in this group of patients. Four of these patients (case 1,5,8,11) had both a free T_4 and free T_3 done by the membrane dialysis method which were elevated while two patients in this THR group (case #2 and #4) showed a normal T_3 RIA and normal Free T_3 by membrane dialysis but an elevated free T_4.

Two patients with euthyroid HT were erroneously treated (Case #5 and #6). One of these patients (case #6) was a 54 year old male who came to our clinics with a long standing history of hyperthyroidism since 1983. At that time his basal thyroid function tests were TSH 1.37 uIU/ml, T_4 18.8 µg/dl, T_3U 34% and FTI 6.3. His private M.D. treated him with Tapazole for one year and since T_4 levels did not decrease he was managed with 4.3 mCi of Ra I^{131}. Five years later, in March 19, 1988, the patient showed the following thyroid function tests: T_4 = 17.04 mcg/dl, TSH 2.68 µIU/ml and in May 1988, he again received 5mCi of Radioactive I^{131}.

After the second course of radioactive iodine treatment he persisted with increased T_4 with a rising TSH and sent to our clinics with the following results: TSH 7.8 µIU/ml, T_3U = 42.2%, T_4 14.3 mcg/dl and FTI 6. He was clinically hypothyroid, referring weight gain, weakness, fatigue, constipation and cold intolerance. His physical exam showed bradycardia and delayed deep tendon reflexes. At this time we considered that this patient had been erroneously diagnosed with hyperthyroidism. A TRH stimulation test was performed showing normal TSH stimulation in spite of an elevated T_4. This result confirmed that we were not dealing with a true case of hyperthyroidism. A Free T_4 and Free T_3 by membrane dialysis were both normal in favor of euthyroidism in spite of elevated T_4. A thyroxine binding protein panel showed an increase binding of T_4 to albumin and pre-albumin. A final diagnosis of familial dysalbuminemic hyperthyroxinemia (FDH) was made.

The patient was started on Synthroid 0.2 mg (200 mcg) po daily. This dose had to be increased to 1.2 mg (1,200 mcg) per day to adequately suppress TSH and consequently raise T_4 levels to baseline elevated values.

DISCUSSION

In our review we found that 7 out of 13 euthyroid patients (53%) had a problem of binding proteins causing an elevation of T_4. Six of 13 (47%) had thyroid hormone resistance.

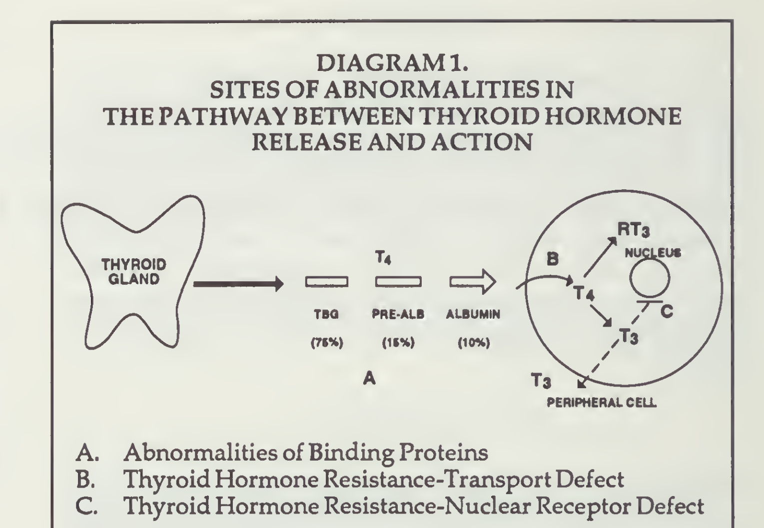
The binding protein abnormalities were mainly an increased binding capacity of albumin and pre-albumin without necessarily having an increase in their absolute levels. These abnormalities are autosomal dominant and known as familial disalbuminemic hyperthyroxinemia. Because of increased binding of albumin to T_4 preferentially, and not T_3, the serum levels of T_4 increase but the serum levels of T_3 are normal. Free T_4 and Free T_3 are normal because there

is no overproduction of thyroid hormones. Since these patients are euthyroid their TSH is not suppressed.

Four of the six patients with TRH had all their thyroid hormone tests elevated including a free T_3 and free T_4 by membrane dialysis with normal TSH. This is seen in patients that have a decrease in the number of T_3 receptors at the nucleus of the cell (Diagram 1). Two patients with resistance had elevated T_4 and free T_4 but normal T_3 and Free T_3. These two patients can be classified as having a transport defect at the cellular membrane level (Diagram 1). This is an active transport mechanism where T_4 is transported inside the cell into the cytoplasm where it is converted to the active hormone, T_3 or the inactive hormone, reverse T_3. A transport defect will cause an accumulation of T_4 in the plasma with a normal T_3 intracelularly that in turn diffuses passively back to the plasma. All these patients are euthyroid with normal TSH. A normal TSH response to TRH confirms that there is also resistance at the pituitary level. So, the pituitary does not perceive that there is hyperthyroidism. Since the peripheral tissues are also resistant, the patient is euthyroid in spite of hyperthyroxinemia.

One of the reasons for this study was to increase awareness of this condition within our medical community by demonstrating the ill-consequences of two erroneously treated patients submitted to iatrogenic diseases that required co-instating chemical hyperthyroxinemia to restore euthyroidism.

DIAGRAM 1.
SITES OF ABNORMALITIES IN
THE PATHWAY BETWEEN THYROID HORMONE
RELEASE AND ACTION



A. Abnormalities of Binding Proteins
B. Thyroid Hormone Resistance-Transport Defect
C. Thyroid Hormone Resistance-Nuclear Receptor Defect

Conclusion

One must suspect familial dysalbuminemic hyperthyroxinemia and thyroid hormone resistance

TABLE I.
PROFILE OF 13 EUTHYROID HYPERTHYROXINEMIC PATIENTS AT THE SAN JUAN CITY HOSPITAL (SJCH)

PATIENTS			THYROID FUNCTION TESTS						TRH STIMULATION			T4 BINDING PROTEIN PANEL	FINAL DX
NO.	AGE	SEX	T4 NL 4.5-12.0µg/dl	T3U NL: 25-38%	FTI NL: 1.10-4.56	T3 (RIA) NL:82-230ng/dl	FT4 NL: 0.8-2.7 ng/dl	FT3 NL: 260-480pg/dl	TSH BASAL NL: 0.32-5.2 µIU/ML	30 MIN.	60 MIN.		
1	22	♂	15.9	36.2	5.75	268	2.9	494	1.99	16.72	13.0	NL	THR***
2	20	♂	18.3	44.9	8.21	205	3.9	404.2	0.4	3.6	2.5	NL	THR**
3	45	♂	17.9	28.5	5.1	146	0.98	283	2.8	7.83	6.51	↑ALB. Binding	FDH
4	51	♂	18.9	39.1	7.4	151	6.0	266	2.0	6.6	10.2	NL	THR**
5	34	♂	22.2	46.5	10.3	238	3.3	493	1.81	19.84	11.92	NL	THR***+
6++	54	♂	18.8	34.0	6.3	166	2.0	286	1.37	18.3	10.2	↑ALB. Binding	FDH+
7	18	♀	15.9	33.3	5.3	124	1.8	289	0.9	8.3	5.2	↑ALB. Binding	FDH
8	41	♀	14.6	36.5	5.32	246	3.8	489	1.83	15.7	13.8	NL	THR***
9	32	♀	15.32	34.8	5.33	166	1.1	305	2.34	19.56	12.78	↑ALB. Binding	FDH
10	48	♀	19.8	27.2	5.1	173	1.9	310	2.79	14.5	11.52	↑ALB. Binding	FDH
11	52	♀	16.9	38.4	6.49	245	3.8	588	1.18	18.85	13.05	NL	THR***
12	58	♀	15.3	36.2	5.53	218	1.2	418	1.1	14.3	12.8	↑ALB. Binding	FDH
13	28	♀	15.5	35.3	5.47	181	2.1	296	2.4	14.9	11.8	↑ALB. Binding	FDH

THR = Thryoid hormone resistance
* Done by Membrane Dialysis
** Transport Defect
*** Nuclear defect

FDH = Familial Dysalbuminemic Hyperthyroxinemia
NL = Normal

ALB = Albumin
+ Cases erroneously treated with I_{131}
++ Case presentation

syndrome in patients clinically euthyroid who have elevated T_4 but non-suppressed TSH. A normal TSH and THR test confirms euthyroidism. The thyroid hormone binding panel differentiates FDH from THR. Neither group require treatment. If treated erroneously and T_4 drops to normal values, one must induce hyperthyroxinemia with T_4 supplementation to restore euthyroidism.

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Articulos Originales:

Epidermoid Carcinoma of the Hand: Report of a Case

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Summary: *The case of a 71 year old man who presented with an advanced epidermoid carcinoma of the dorsum of the hand, is reported. The patient was treated with radiotherapy as an alternative to amputation. Irradiation consisted of a combination of Co-60 photons and 6 Mev electrons. The cosmetic and functional results were excellent and the patient has been free of hand tumor for two and one-half years.*

Introduction

Squamous cell carcinoma is the most common primary malignant tumor of the hand (1,2). It occurs more frequently on the dorsum of the hand and fingers than the palm which is rarely involved (1-3). It is a desease of elderly males who have had prolonged periods of actinic exposure (1-3). Epidermoid carcinoma of the hand can be treated successfully by either surgery or radiotherapy. However, when it arises in an interdigital space or adjacent skin over the metacarpophalangeal joint, it behaves more aggressively and is difficult to cure by non-surgical means (4).

Case report:

A 71 year old man, examined for the first time in March 1991, presented a history of an enlarging, non-healing ulcer on his right hand, which had been present over one year. Initial examination revealed a 5 x 3 x 1.5 cm exophytic tumor with indurated, elevated borders on the dorsum of the right hand, centered in the second metacarpophalangeal joint, involving the first and second interdigital spaces (Figs. 1,2). It was tender to palpation, fixed to the underlying structures, and the patient was unable to make a fist with his right hand. No significant epitrochlear or axillary adenopathy was palpated. A biopsy of the lesion was reported as well differentiated epidermoid carcinoma (Fig. 3).

The case was referred to radiotherapy for treatment as an alternative to partial amputation of the hand. The goals of radiotherapy treatment were to obtain local control of the tumor and to preserve this elderly patient's right hand. From April 15 to May 30, 1991 the patient received 79.50 Gray (Gy) in 46 days. Of



Fig. 1. Tumor present on dorsum of right hand.

this, a total of 67.20 Gy were delivered using Co-60 irradiation, tangential fields to spare normal tissue as much as possible, and placed on a twice-a-day fractionation schedule. A booster of 12.30 Gy was delivered to the residual tumor using 6 Mev electron beam irradiation. During the course of radiotherapy the tumor and adjacent normal tissue were covered by an occlusive hydrocolloid dressing (Fig. 4). To avoid infection, daily local care to the hand area was provided by our nursing staff. No gross residual tumor was present at the completion of the treatment, but a 5 x 2 cm area of ulceration remained (Fig. 5), which

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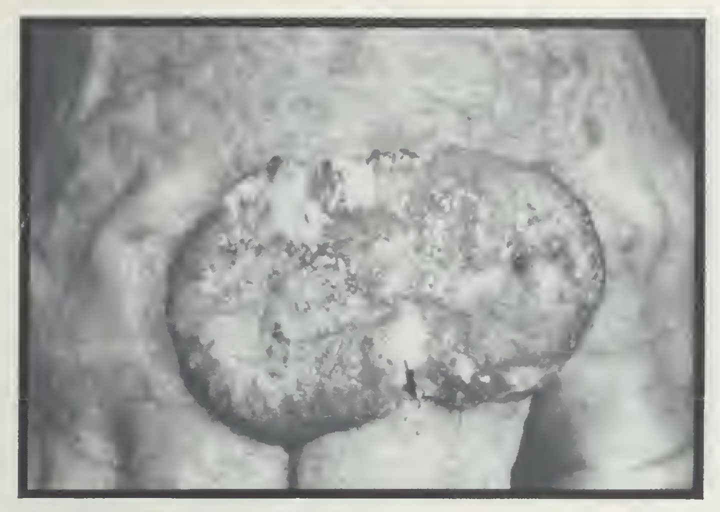


Fig. 2. The tumor, centered in the second metacarpophalangeal joint, involves the first and second interdigital spaces.

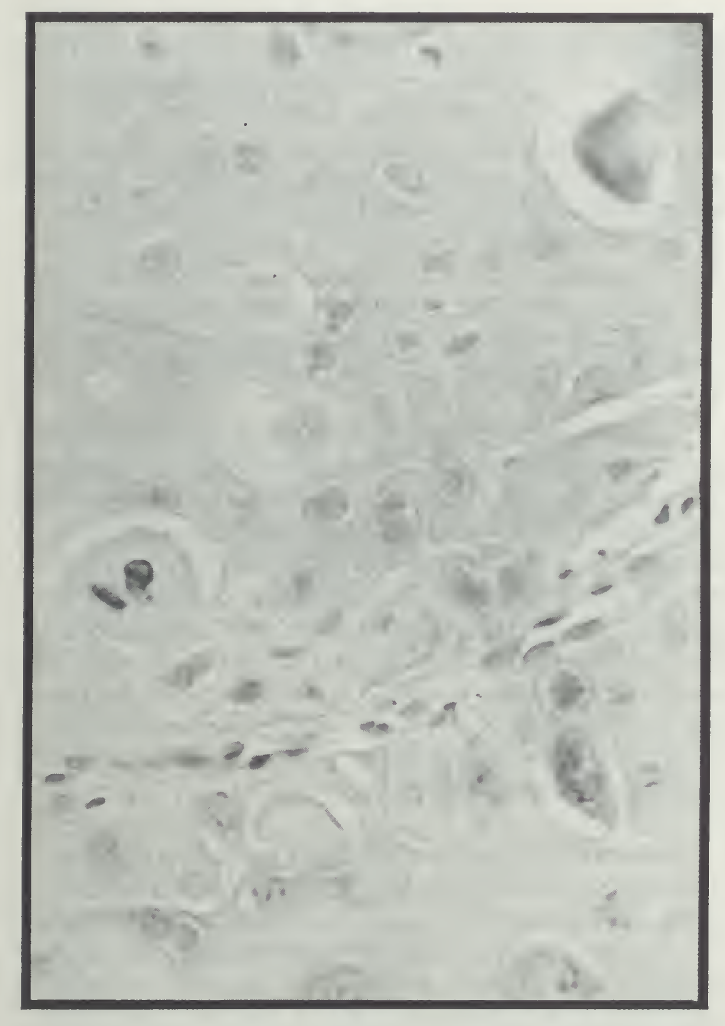


Fig. 3. Well differentiated epidermoid carcinoma (Hematoxylin-eosin stain; original magnification x 400).

healed in seven weeks. On follow-up, two and a half years after treatment, there was no evidence of recurrent tumor in the right hand. Except for the discoloration of the skin in the treated area, the cosmetic appearance was excellent and there was no functional limitation of the hand (Fig. 6).



Fig. 4. Hydrocolloid dressing placed over tumor and adjacent normal tissue.

Discussion

Epidermoid carcinoma of the dorsum of the hand and fingers occurs more frequently in elderly males as a result of excessive exposure to solar radiation (1-3). Most squamous cell carcinomas of the hand are superficial and of low-grade malignancy (2). However, those which ulcerate and invade deep structures have a greater tendency to metastasize (1-3, 5, 6). The most frequent site of metastasis is the axillary lymph node group followed by the epitrochlear nodes (3,7). The presence of positive nodes carries a dismal prognosis, only 35% of patients surviving 5 years (8,9).

Johnson and Ackerman (3) described the pathological alterations leading to epidermoid carcinomas of the hand in seventy-two consecutive cases, and correlated the evolution of these carcinomas with the prognosis. The most important factor influencing the rate of metastasis in this series was the depth of invasion relative to the coiled portion of the sweat glands. Metastasis did not occur from tumors lying above the sweat gland level. The development of an invasive tumor in exposed areas of the dorsum of the



Fig. 5. Ulcer present at completion of treatment.



Fig. 6. Excellent cosmetic and functional result two and one-half years after radiotherapy.

hand and fingers was preceded by the development of a degenerative zone in the dermis that acted as a passive barrier. When the tumor gained access to less exposed areas (the side of the hand and fingers and interdigital webs) it entered a zone in which degeneration in the dermis was much less or even absent, clearing the path for invasion of the normal tissues.

Rayner (4) reported the results of treatment of two hundred seventy-three carcinomas of the hand at Christie Hospital, Manchester. Fifty-six behaved in an aggressive or complicated manner: failing to respond to radiotherapy or surgery; requiring primary amputation; presenting with metastasis. The majority of these tumors were located in the area of the thumb web space, the interdigital space and the proximal phalanges. He categorized these areas as "danger zone" of the hand. Rayner emphasized the difficulties involved in treating, by any means, tumors originating in this "danger zone".

The preferred method of treating epidermoid carcinoma of the hand is by wide surgical excision, whenever feasible, with of without skin grafting (1,3,8,10-12). Because these lesions are usually found in elderly patients who have marked keratotic changes in the skin, radiotherapy is reserved for inoperable situations, when the patient so chooses, or as an alternative to amputation (1,3,8,10-13). Some authors (10,11,14) favor the use of brachytherapy with radioactive molds over teletherapy, and some (11,14) discourage the use of external-beam irradiation techniques for the treatment of lesions of the dorsum of the hand because the spareness of subcutaneous tissues predisposes to the high incidence of radiation-induced complications, such as radionecrosis and loss of function.

In our case the tumor was located in the "danger zone" and presented poor prognostic factors such as large size, fixation, pain and functional impairment of the hand. The location, size of the tumor and pain upon palpation of the area made the use of a radioactive mold technically difficult. External beam irradiation, using a combination of Co-60 photons and 6 Mev electrons was used in this case with an excellent outcome. We believe that the rapid, uncomplicated healing of the ulcer was due to the attentive local care provided by our nurses and the use of hydrocolloid dressing (15).

Carcinoma of the dorsum of the hand is best treated by surgery. Radiotherapy is reserved for selected cases or as an alternative to amputation. Advanced tumors, where conservative surgery is not feasible, should be evaluated by a multidisciplinary team of surgeons and radiation oncologists to formulate the most beneficial treatment that can be offered to the patient.

Resumen: *El cáncer epidermoide de la mano afecta preferentemente el dorso de la mano y dedos de varones envejecientes con historial de exposición excesiva a la radiación solar. Cuando estos tumores se originan en los espacios interdigitales o en la piel adyacente a las articulaciones metacarpofalágicas, se comportan agresivamente y son difíciles de curar.*

Presentamos el caso de un paciente con uno de estos tumores, que fue tratado con radiación, como alternativa a la amputación, con excelentes resultados cosméticos y funcionales.

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Infections Caused by Parvovirus B19

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Summary: Parvovirus B19 was discovered in 1974 by Cossart et al; is a single stranded unenveloped DNA virus, which virion is isometric, uniform and has icosagedral symmetry. B19 infection has been found in all countries, it is almost certainly world-wide in distribution. Infections occurs most frequently in late winter, spring and early summer months and are transmitted by respiratory route. Erythema infectiosum is the most common manifestation of human parvovirus B19 infection, is most commonly acquired between 4 and 10 years of age and at least 60% of adults are seropositive. Erythema Infectiosum is characterized by three stages of rash that involves the face and may also involves trunk and extremities. In adult patients, particularly women, arthralgia or arthitis have been associated with up to 80% of Erythema Infectiosum casually starts in the small joints of the hand. Maternal parvovirus B19 infection with or without rash, can affect fetus. Transient aplastic crisis can be caused by HPV B19 in patient who have increased rate of RBC destruction or loss. Others diseases or symptoms complexes may be associated with B19 infection in the coming years as this virus and its infections continues being an interesting field of investigation.

Introduction

Parvovirus B19 was discovered in 1974 by Cossart et al. during evaluation of test for hepatitis B surface antigen. When a small number of sera gave anomalous results in that they were positive by counter immunoelectrophoresis and negative by the more sensitive reverse passive hemagglutination[1]. This was because the polyvalent human sera used in CIE were detection an antigen that was distant from HBsAG. Electron microscopy revealed a virus particles with a mean diameter of 23nm, and their morphology and buoyant density were characteristic of parvovirus[1].

The original description of this new human parvovirus listed 11 viremic individuals. Nine were healthy blood donors, one had acute hepatitis, and other had undergone a renal transplant one week earlier[1]. B19 was originally thought to be a common human infection that was most frequently, possible entirely, asymptomatic. In 1981, a chance discovery of viremia in two children attending a clinic in London led to the description of six cases of aplastic crisis associated with B19 infection in children with sickle cell anemia. Now it's know that over 90% of all aplastic crises are caused by B10[8]. Later in 1983 the hypothesis that erythema infectiosum (fifth disease) was the common clinical manifestation of B19 infection was shown to be correct, in 1984 it was also found to be associated with stillbirths and in 1985 with arthritis[8].

B19 infection is most common in school age children and 50% or more of adults will have serologic evidence of past infection[8]. Despite the inability to grow the virus except in bone marrow explant cultures, good diagnostic test have been developed for B19. Either radioimmunoassay or an enzyme-linked immuno-sorbentassay for IgM antibodies is the most sensitive way to detect infection[1,8].

Microbiology

Parvovirus B19 belongs to the family Parvoviridae, of which there are 3 genera: Parvovirus (including the many species specific parvoviruses of animals); Dependovirus (including the human adeno-associated viruses); and Densovirus (viruses of insects)[8]. The parvoviruses are among the smallest of the DNA animal viruses. The virion has a diameter of 20-25 nm, incosahedral symmetry and is composed of only three proteins and a linear, single strand DNA molecule taht is 5.5 kiobase in length[13]. The particle has a molecular weight of 5.5 - 6.2 megadaltons. Parvovirus has two capsid proteins: 58 kd (predominant) and 84 kd, antibodies against both capsid proteins are neutralizing.[26]. Approximately 80% of the mass is protein, and the remainder is DNA[1]. It appears to be conventionally arranged with a long linear coding sequence and terminal hair pin loops that are long compared with other parvoviruses, and each end shows extensive homology[1]. There are two large open reading frames and a number of smaller ones. B19 packages complementary strands with equal efficiency and these spontaneously anneal when the DNA is extracted[1]. Possibly resistant to inactivation. B19 virions are relative uniform, isometric, uneveloped particles[13]. It is stable between pH and 9 and at 56°C for 60 minutes. The virus can be inactivated by formalin, propionactone, hydroxylamine and oxidizing agents[1].

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Parvoriruses replicate in the nuclei of infected cells[1]. Of all of the DNA viruses, they seen to be among the most dependent on certain cellular functions. The autonomous parvoviruses require the cell to go through S phase in order to replicate, due to its small genetic capacity they do not have the ability to estimulate or turn on host DNA synthesis in resting cells(1). As a consequence, virus replication will be relatively extensive in rapidly dividing tissues, which are likely to be damage as consequence. Thus, it is not surprising infections of the fetus, the intestinal epithelium and the hemopoietic system[1].

There appears to be a single, stable antigenic type of B19. Infection is followed by life long immunity, indicating a single neutralizable type[8].

Epidemiology

B19 infection has been found in all countries (Europe, North America, Scandinavia, Australia and japan) in which appropriate diagnostic tests have been applied, and it is almost certainly worldwide in distribution[1]. Recognizable disease associated with B19 infection clusters in childhood, although some complications such as arthralgia occur more commonly in adult cases. Small-scale serological studies agree with this and indicate that infection is most commonly acquired betwee 4 and 10 years of age and that at least 60% of adults are seropositive[1]. There is seasonal pattern to B19 virus infections. Although is endemic throughout the year in temperate climates, infections occurs most frequently in late winter, spring, and early summer months[1]. The vast majority of these infections are transmitted by tghe respiratory route; however, the occurrence of a high-titer viremia creates the possibility of transmitting this infection by blood or blood products, especially clothing factor concentrates and this has been shown to occur[1].

Clinical B19 infection, Erythema Infectiosum or Aplastic Crisis, is most common in school age children, with 10% of cases occurring among children less than five years old, 70% among children between 5 to 14 years old and 20% among persons with 15 or more years old in one outbreak[8]. The available data suggest that persons with AC, on the other hand, are likely to be infectious at the onset of their illness and for several days to a week therealter[8]. The prevalence of B19 IgG antibodies increases with age; from 2 to 9% of children less than 5 years old, 15 to 35% of children 5 to 18 years old, and 30 to 60% of adults with 19 or more years old are B19 IgG positive. This is consistent with the epidemiologic finding that most clinical B19 infections occur in school age children[8].

Pathogenesis

The accumulated experience of natural infection, volunteer studies, and in vitro cell culture studies has generated considerable insight into the pathogenesis of B19 infection[8,14]. The virus is infectious when given as nasal drops[1]. It is assumed, therefore, that the virus is usually spread bythe respiratory route[1]. An intensive viremia develops one week after inoculations, accompanied by mild illness with pyrexia, malaise, myalgia, itching and excretion of virus from respiratory tract and urine[1,14]. In most individual, virus is detectable for a matter of days only and this is followed by a specific antibody response initially of the IgM class about 10 days but after a day or two also of the IgG class[1].

At the end of the viremic phase, hematological changes take place. No erythroid precursos are present in the bone marrow of normal individuals 10 days after inoculation and the expected disappearance of reticulocytes from peripheral blood take place during the second week after inoculation and also is associated with a slight but significant fall in the hemoglobin level[14]. There is a consistent fall in levels of neutrophils (with compensatory elevated counts one week later), lymphocytes and platelets. The tremporary arrest of production in red blood cells is clinically obvious only in patients with chronic hemolytic anemia because of the short life span of their erythrocytes[2].

A second phase of illness occurs in infected volunteers during the third week after inoculation[14]. The characteristic features are rash and arthralgia lasting 3-4 days[1]. As yet, there are no studies of the pathology of either of these features, but since they follow the disappearance of the viremia and occur at a time when there is an easily detectable immune response, it is envisaged that the rash and arthralgia may be immune-mediated[1]. The viremia that is characteristic of the placenta and fetus if it occurs during pregnancy. In infected features, there appears to be a persistent infection with damage to hematopoietic clls, leading to anemia, heart failure, and hydrops fetails[1].

Serologic studies of persons exposed to Erythema Infectiosum patients suggest that over half of those with evidence of infection (seroconversion to B19 or presence of B19 IgM antibodies) will not have a rash illness[8]. Some will be asymptomatic (17 to 25% in two studies) and the remainder will have systemic, gastrointestinal or respiratory symptoms. Asymptomatic infection was the most clinical picture associated with blood donors whose serum specimens were screened and found to be positive for B19 antigen[8]. The high rate of asymptomatic infection without typical Erythema Infectiosum symptoms explains the discrepancy of the high prevalence of B19 IgG antibodies in adults but relatively infrequent hsitory of past Erythema Infectiosum-like illness[8].

Patients with aplastic crisis appear to be contagious from the onset of acute illness and through the sub-

sequent week or so. In contrast, patients with erythema infectionsum (rash) are likely to be contagious before onset of clinical symptoms and have litle or no virus in respiratory secretions at the time of rash. Transmission is facilitated by close contact. A susceptible adult in the household of an infected child has approximately a 50% risk of developing illness that have been found to develop at a 20% rate in previously seronegative school teachers observed[18].

Cinical Manifestations

The distinctive clinical manifestations or syndromes associated with Parvovirus B19 infection are: rash illness (Erythema Infectiosum), aplastic crisis, arthritis, fetal injury and chronic auremia.

Erythema infectiosum is the most common manifestation of human parvovirus B19 infection, is common in children age 4-11 years and is sometimes called fith disease because it was the fith of six erythematous rash illness of childhood in an old classification[1,8,9]. The rash may be immune-complex-mediated, while the other, more serious manifestations of B19 infection are related to the propensity of the virus to infect and lyse erythroid percussor cells and interrupt nor al red cell production[19]. Classically, Erythema Infectiosum is characterized by three stages of rash: the malar stage, with a "slapped cheek" appearance; the erythematous stage, involving the trunk and extremities; and the stage with periodic recrudescences of a lacy, evanescent rash[1,8]. The varied manifestations of Erythema Infectiosum, however, may make it difficult to discern these stages; a typical rashes may, in fact, be more frequent than the classic "slapped cheek" appearance[20]. Although the facial ras was once thought to be the initial event in the course of the ilness, the extremities, trunk or buttocks are more commonly involved first[12]. This rash is characterized by the sudden onset of diffuse erythema extending above the nasolabial folds to involve the entire cheeks, often has a bilateral circular distribution with a pale center of normal-appearing skin, giving it the classic "slapped cheek" appearance, has a well defined often raised edge, and usually composed of thread noncontiguous plaques: one on each cheek and the third on the mental prominence[1]. Diffuse lesions may be present elsewhere on the face, but the circumoral area and bridge of the nose are not usually involved[21]. The cheeks are warm to the touch but not tender or painful. The involved areas and the chin in particular may feel edematous[21].

A generalized marbilliform rash may precede, follow, or appear simultaneously with the facial rash. In many cases, it may be the only manifestation[5]. The rash may involve the extremities (including palms and soles), trunck buttocks, and neck, and may move about from site to site[5,8]. It last only a day or two, although transient recrudescences may occur when the individual gets hot (exercise, bathing, sunlight), local irritation or emotional stress[8]. This erythematous rash illness is very similar to rubella and in the absence of laboratory test, the most frequent diagnoses made are rubella, allergy or viral illness, unless there is an outbreak in young children associated with red cheeks, in which case the diagnosis of Erythema Infectiosum is often made[1].

In its most characteristic stage, the generalized rash is noted to be pink, "lacy" and delicately reticular or serpiginous[21]. Over a day or two, the lesion become less plaque-like and duller in color, begin to fade centrally, and evolve into the lacy rash that then dominates the extremities[20]. In some patients the first symptom is the rash (noted in 50 to 100% of outbreak cases of Erythema Infectiosum), but in about 20-60% of patients it is preceded by 1 to 4 days by a mild prodromal illness[8]. The prodromal illness may include malaise, sore throat, cold, diarrhea, coryza and low grade fever (100-101 F)[8]. The facial rash sometimes spares the orbit and nasal bridge and can be associated with circumoral pallor and fine desquamation[8].

Some patients with Erythema Infectiosum have had an enanthem described as erythema of the tongue or pharynx or macular lesions of the buccal mucosa, hard palate or soft palate also lymphadenopathy has been reported in some outbreaks[8].

Transient Aplastic Crisis

Transient aplastic crisis can be caused by human parvovirus B19 in patients who have increased rates of red cell destruction or loss and who depend on compensatory increases in red cell production to maintain stable red cell indices. Patients at risk include those with (acquired with) acute or chronic blood loss[1,2,5,8], B19 induced aplastic anemia has been reported in patients with sickle-cell disease, thalassemia, pyruvate kinase deficiency, AIDS, hereditary spherocytosis and pyrimidine-5-nucleotidase decency[1,2,5,8,21]. Itis characterized hematologically by a fall in hemoglobin from steady-state values, a disappearance of reticulocytes from the peripheral blood, and a virtual absence of red blood cell precursors in the bone marrow at the beginning of the crisis[1]. The cessation of erythropoiesis lasts 5-7 days, and patients present with symptoms of worsening anemia. The situation is serious in most patients and is occasionally fatal. Blood transfusion is required in the acute phase, but after a week or so the bone marrow recovers rapidly, there is a reticulocytosis, and hemoglobin concentration returns to steady-state values[1].

Studies of the association between HPV infection and aplastic crisis suggest that B19 parvovirus is the cause of at least 90% of cases of aplastic crisis and that aplastic crisis can occur in any person who has an

increased turnover rate of red blood cells[8]. Severe anemia following HPV infection has been reported in patients without underlying hemolytic disease; most of the patients had impaired immune response and subsequent prolonged HPV infection[2,7].

Parvoviruses appear to have target cells in the bone marrow; an aplastic crisis is due to a transient arrest of erythropoiesis, thus causing a reduction in peripheral blood level of hemoglobin[4]. Invitro studies have shown that early cells of erythroid series are susceptible to lytic infection. The virus inhibits erythroid colony formation in vitro and is directly cytotoxic to a progenitor at the erythrocyte burst-forming unit/colony forming unit state of differentiation[4]. Viremia is usually present at the start of an aplastic crisis. The temporary arrest of red blood cell production is probable clinically obvious mainly in patients with chronic hemolytic anemias because of the short life span of their erythrocytes and increased demand for erythrocytes production[7]. The same interruption of erythropoiesis also occurs in normal persons, but their peripheral cell reserve (mature erythrocytes circulate for 120 days) protects them from the results of the ensuing RBC deficit, and the effect remains subclinical[14]. Studies of secondary cases of aplastic crisis (AC) in families suggest that the incubation period of AC is usually between 6 and 12 days but may be 20 days or longer, like the incubation period of Erythema Infectiosum. Among reported cases with good clinical descriptions most patients have had viral-like symptoms such as fever, malaise, gastrointestinal symptoms, respiratory symptoms and skin rash[8]. There is one reported case of a typical Erythema Infectiosum rash occurring in a patient with AC. Photophobia, eye pain or conjunctivitis has been reported in up to 15% of patients. most patients consult a physician 1 to days after onset of the viral-like symptoms at which time they have lethargy and pallor and are hospitalized are treated with transfusions[8]. In the acute phase of the illness, patients usually have a moderate to severe anemia with absence of reticulocytes, and bone marrow examination show a hypoplastic or an aplastic erythroid series with a normal myeloid series. recovery is indicated by the return of reticulocytes in the peripheral smear approximately seven to ten days after their disappearance[19].

Parvovirus B19 infection can be fatal if not treated promptly. In know case of hemolytic anemia when the risk of family, school, or community contact is recognized, the possible prevention of aplastic crises by administering human immunoglobulin with a high content of HPV antibody should be considered[2]. Nosocomial transmission of Erythema Infectiosum from patients with HPV B19-associated aplastic crisis to hospital staff members has been reported. Patients with hereditary hemolytic anemias presenting with a febrile illness should be evaluated for aplasia and placed in respiratory and contact isolation if aplastic crisis is suspected[5]. Parvovirus infection ordinarily resolves with the production of specific antibodies that neutralize virus infection for erythroid host cells[7]. In the absence of an adequate antibody response, however, B19 parvoviremia can persist. Infection in the immunocompromised child or adult results in chronic severe anemia caused by erythroid marrow suppression. It have been document persistent parvovirus infection in congenitally or acquired immunodeficient persons, and in children with acute lymphocytic leukemia in remission who are receiving maintenance immunosuppressive chemotherapy[7]. In absence of fever, rash, or systemic complains, an infections process by parvovirus B19 may not be suspected. In one study one patient was probably infected with the virus infection and leads to normal erythrocyte production. A review of the literature of pure red aplasia suggests that some cases of erythrocyte hypoplasia attributed to chemicals, malnutrition or vitamin deficiency, or other infectious agents like HIV may have represented acute, or chronic parvovirus infection[7].

Arthitis and Arthralgias

Arthitis and arthralgias have been associated with up to 80% of Erythema Infectiosum cases in adults, in some cases of AC and less commonly in children 10% or less[4,8].In young children, brief arthralgias may occur during the course of the illness, but joint pain is more frequent and more severe in older children. HPV associated arthropathy in children is often asymmetrical and usually preceded by the rash[22]. The arthritis occur most common in woman (mean age early 30's) and symmetrically involves the peripheral joint[1,8]. Usually starts in the small joints of the hands or knees and within 24 to 48 hours involves the wrists, ankles, feet, elbows, and shoulders. Associated with joint stiffness and variable swelling[12]. The shoulders, cervical spine, hips or the lumbosacral spine are less commonly involved. Most joint are occasionally involved, including the spine and costochondral joints. Acute costochondritis, which resulted in admission to a coronary care unit, has been descibed following B19 infection[12]. The arthritis usually followed the rash, if present, by 1 to 6 days, but occasionally preceded the rash by as much as 10 days, and if often accompanied by flulike symptoms. It usually improved within 2 weeks and joint stiffness and arthralgias within 4 weeks; some patients had persisting symptoms for several months and even years[8]. Joint manifestationstend to be more frequent and severe in adults and can be temporally.incapacitating[23]. The arthropaty occurred occasionally in the absence of other symptoms 50% or just with a nonspecific rash. The diagnosis would not be apparent clinically and the arthropathy, it persistent, may be diagnosed as rheumatoid arthritis. Cases have been described that fulfill the American Rheumatism Association criteria

for definite rheumatoid arthritis but these were seronegative for rheumatoid factor, which eventually resolved and did not develop any erosive changes or roentgenographic examination[13].

There are not reports of joint destruction with B19 associated aethritis. B19 does not appear to be associated with rheumatoid arthritis[8].

Fetal Injury

Fetal injury has also been associated with parvovirus B19 infection. Evidence indicates that HPV B19 infection is clearly embryocidal and may result in an adverse outcome (spontaneous abortion or intrauterine fetal death secondary to hydrops fetalis in some cases), whereas other exposed fetuses appear to be unaffected[4,6,16,17]. The teratogenicity of B19 infection remains unproven, and the incidence of congenital malformation following B19 infection appears to be no higher than the expected rate in the general population[15]. Because of the high prevalence of HPV B19 IgG among adults, most pregnant women are not at risk for infection by the parvovirus (IgG positive, IgM negative) confers immunity and has not been reported to associated with adverse perinatal outcome[16]. Studies of women unselected for exposure to HPV infection have found that it is in common during pregnancy, occurring in about 1% of women[3].

No increase in birth defects was observed during the year following a large outbreak of Erythema Infectiosum in Washington, D.C. in 1961-1962[1]. The same conclusion was arrived at in a study (in a town) in England in 1977[1]. Finally, B19 diagnostic tests were applied to sera taken during the first month of life from infants with birth defects. No viral antigen or specific IgM antibody could be found. However, this diagnostic approach depends on analogy with rubella and cytomegalovirus infection. Both of these viruses cause persistent infection of the fetus, and it may be that B19 causes an acute infection that is rapidly cleared. Nevertheless, these is presently no evidence that B19 causes birth defects[1].

The majority of pregnancies complicated by B19 continue to full-term delivery of normal infants. However, damage sometimes occurs as a consequence of second or third trimester infection, in these cases, fetal hydrops appear to be a consistent feature[1,6,16,17]. The risk of adverse outcome in a woman with serologically confirmed B19 infection is 10% overcall, being the risk greater in first 20 weeks of gestation. maternal B19 infections appears to occur 2-12 weeks prior to the diagnosis of hydrops fetails. B19 infection of the fetus is suggested by cells with eosinophilic intranuclear inclusions and the presence of the virus can be confirmed by in situ hybridization or by filter hybridization[1].

Cases of maternal HPV infection and subsequent fetal death have been reported in each of the three trimesters[6,17]. In an HPV B19 outbreak in northeast Scotland, six women had serologic evidence of having contracted human parvovirus during pregnancy. Two of the women had midtrimester abortions, and both abortuses were grossly hydropic with anemia. Dot hybridization with radiolabeled human parvovirus DNA probes revealed viral DNA in several tissues from both fetuses indicating that they had been infection followed by the birth of anemic new born has also been described[18]. Maternal history of an HPV infection is an inadequate indicator of fetal risk since fetal death has followed silent or atypical maternal infection[18].

The pathogenesis of intrauterine fetal death is related to hematologic effects of B19 infection on the fetus. Intrauterine infection causes an aplastic crisis similar to that occuring in patients who have chronic hemolytic anemia[16]. HPV B19 has a special affinity for rapidly dividing cells in the infected host, particularly erythroblast. The life span of fetal RBCs is shorter than that of adult RBCs, and the fetal RBC mass increases 34-fold from the third to the sixth month of gestation[16]. The combination of decreased red cell life span and hyperplastic erythropoiesis makes the fetus highly vulnerable to cessation of RBC production[16]. A likely pathogenetic sequence is maternal infection leading to an aplastic crisis in the fetus, followed by congestive heart failure, hydrops fetails, and fetal death[17]. The etiology of hydrops fetails is this setting may be severe anemia reduction induced in the oxygen-carrying capacity of the blood. Generalized edema and fluid accumulation in the serous cavities may develop because of increased capillary permeability secondary to hypoxemia-induced vascular damage[16].

If a pregnant woman has a history of contact with someone who has Erythema Infectiosum or if she was has a rash shown not to be caused by rubella, she should be serotested for recent HPV infection[18]. Elevated serum alpha fetoprotein levels in a pregnancy complicated by HPV infection appear to a sensitive marker for fetal aplastic crisis and poor prognosis; whose pregnancies ended in fetal death from HPV infection but normal in infected women who subsequently delivered normal infants[17]. If HPV infection is suspected or confirmed, serial ultrasonography should be performed to exclude the possibility of hydrops fetails[17]. Intra uterine blood transfusions are considered a high risk procedure and not recommended as routine treatment.

Others

Parvovirus B19 has also been associated to numbness and tingling of peripheral extremities even in the absence of an illness consistent with fith disease and it

should be considered in the differential diagnosis of such symptoms[10]. A new complication related to parvovirus B19 infection, acute lethal myocarditis has been reported in the context of a familial epidemic[24]. Also purpura (petechial hemorrhage) and vasculitis has been reported with B19 infection[25].

Laboratory Diagnosis

Virus can be detected by a whole range of techniques, including electron microscopy, counterimmunoelectrophoresis (CIE), radioimmunoassay (RIA) or enzyme immuno electrophoresis (EIA) for antigen and various forms of nucleic acid hybridization[1]. Serum is the specimen of choice because the highest concentrations (up to 10 particles/mL) of virus are found in this fluid; if virus is not detected in the sample, it can serve as an acute-phase serum as the detector antibody[1]. Also there is a IgM assay, which made possible the diagnosis of recent infection with a single serum specimen. This assay has been improved with the development of monoclonal antibodies against B19 and their application to capture IgG and capture IgM RIA and enzyme-linked immunosorbent assays[8,11]. B19 IgM antibody tests detect between 80-90% of patients with clinical Erythema Infectiosum or AC with good specificity[8]. Both IgG and IgM antibodies are present at or soon after onset illness and reach peak titers within the first 30 days. Because IgG is often present at the onset of clinical Erythema Infectiosum and AC, a diagnostic rise in B19 antibody may not be seenand the diagnosis is made in step by detecting IgM antibodies[8]. IgG antibodies persist for years, but the IgM antibody titer begins to fall 30 to 60 days after onset of illness and may become undetectable by 60 to 90 days after onset. In some persons IgM may still be detected a low titters up to 6 months after onset of illness[8]. Both the B19 RIA and enzyme-linked immunosorbent assay have been adapted to detect antigen[8].

Nucleic acids hybridization probes and polymerase chain reaction have been used to detect B19 DNA in clinical samples of serum, urine, respiratory secretions and tissues. The hybridization assays are the most sensitive tests for detecting virus; the IgM assays are the most sensitive tests for detecting infections[8]. The diagnosis of B19 in a fetus depends upon the detection of virus in fetal specimens. The diagnosis can be made by detection of virus in fetal blood samples or in fetal tissues (taken at autopsy) from which DNA has been extracted or detection of virus following in situ hybridization on formalin-fixed, paraffin-embedded tissue sections[1].

Treatment

There is no specific antiviral chemotherapy for B19 infection[1]. Symptomatic relief of troublesome joint symptoms may be required for B19 associated arthralgia, and blood transfusion may be deemed necessary in the acute phase or aplastic crisis[1]. In immunosuppressed patients with persistent infection, the B19 induced anemia has responded temporarily or permanently to the administration of human immunoglobulin containing B19 antibody[1].

A vaccine for B19 would probably be beneficial for persons with hemolytic anemias, but vaccine development is presently hampered by the inability to grow the virus and lack of an animal model to evaluate candidate vaccines[8].

Conclusion

Parvovirus B19 is the primary etiologic agent of Erythema Infectiosum and aplastic crisis in patients with hemolytic anemias, if often causes an asymptomatic infection or nonrash illness, it can cause arthritis in adults and it can cause fetal death. A transient red blood cell aplasia that is neither symptomatic nor detected in someone with an otherwise normal hematologic system probably is common with B19 infections. Many of the differences in the clinical presentation of B19 infection result from differences in the hosts; some differences may also result from differences in virus strains[8].

Other diseases or symptoms complexes may be associated with B19 infection in the coming years. It is to be hoped that routine screen and a vaccine will be made available so that this serious virus can be handle in much the same manner as is rubella[16].

Resumen: *El parvovirus B19 fue descubierto en 1974 por Cossart, es un virus de DNA de una sola cadena y sin sobre, cuyo virion es isométrico, uniforme y tiene simetría icosahedrica. La infección por B19 ha sido encontrada en todos los países, es casi de distribución mundial. Las infecciones ocurren más frecuentemente tarde en el invierno, primavera o temprano en los meses de verano y son transmitidas por vía respiratoria. El eritame infectioso es la manifestación más común causada por la infección del parvovirus B19 humano, se adquiere más comúnmente entre 4 a 10 años de edad y al menos 60% de los adultos son serpositivos. El Erythema Infectiosum se caracteriza por tres estadíos de erupción que envuelve la cara y puede envolver el tronco y las extremidades. En pacientes adultos, particularmente mujeres, artritis y altralgia ha sido asociada con hasta un 80% de los casos de Erythema Infectiosum. La artritis envuelve simétricamente las articulaciones pequeñas de la mano. La infección materna por parvovirus B19 con sin erupción, puede afectar el feto. Una en pacientes que tienen una rapidez aumentada en la destrucción o pérdida de glóbulos rojos, anemia aplástica en pacientes con anemias hemolíticas crónicas. Otras enfermedades o síntomas podrían ser asociados con la infección por B19 en los próximos años ya que este virus sus infecciones continúan siendo un campo interesante en la investigación.*

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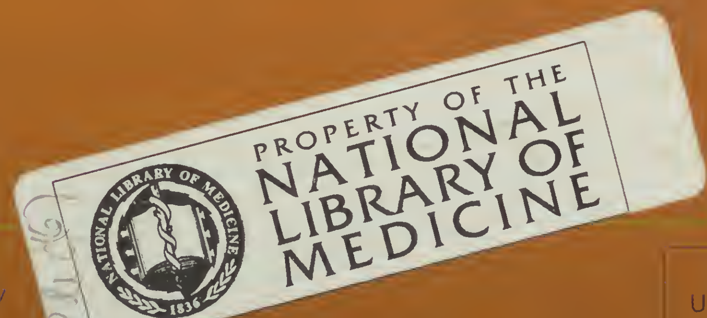
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Editorial:

Empatía e Intersubjetividad - Modelo Fenomenológico de la Relación Médico-Paciente

Por: Elena Lugo

La tecnología ha alterado significativamente la forma al igual que el sentido de la relación médico-paciente. El contacto con el paciente puede ser breve y en períodos intermitente. En este contacto predominan los aspectos técnicos sobre la persona del paciente y su experiencia existencial de la dolencia, su corporeidad se reduce a lo que el estudio empírico de la anatomía y la fisiología revela. La dolencia es categorizada según sintamos accesibles a los recursos de diagnóstico tecnológico más que resultantes del diálogo y la participación del profesional se hace tan científica y técnica a nombre de la objetividad clínica que sus valores y sentimientos al igual que los de los pacientes quedan marginados.

Ante una medicina tecnologizada muchos pacientes se creen percibidos y tratados como objetos fragmentables en sus partes y evaluados cuantitativamente - a modo mecanicista. Su persona queda reducida a la enfermedad como categoría abstracta y a ésta a su vez se le define en términos de síntomas de acuerdo al modelo fisiológico con lo cual se reduce la experiencia personal de sufrimiento a un precisar objetivo del dolor. La presencia del profesional que se considera científico-técnico en su objetividad pierde esa empatía, cálida cercanía, y entendimiento compasivo que tanto necesita el paciente en su vulnerabilidad e inseguridad físicas-psíquicas y existenciales. La fragmentación de su ser y el aislamiento que la relación impersonal supone genera una experiencia de agresividad y militancia del profesional que dice combatir con la técnica a una dolencia como invasora del organismo biológico. No es de extrañar que se suscite una violencia sutil de carácter psíquico más que físico, de rasgos existenciales que hieren la intimidad espiritual y no sólo la integración corpórea.

En este trabajo no evaluo las contribuciones positivas de la alta tecnología a la medicina moderna. Tampoco planteo otras causas posibles -sistemas de seguro de salud, condición impersonal de la vida urbana de época industrializada- de la despersonalización en la relación médico-paciente.

La alta tecnología moderna al ser aplicada al cuidado de la salud debe regirse por una consideración de la finalidad de la medicina en cuanto tal y de las exigencias inherentes al acto clínico que establece la relación profesional médico y paciente. En la medida en que esta consideración no es cultivada se corre el riesgo de violar la dignidad de las personas en la relación al igual que viola la justicia de la relación entre sí. En esta presentación me propongo exponer cómo de hecho este tipo de violencia sutil existe. Intentaré a su vez presentar la teoría fenomenológica de la inter-subjetividad como fundamento a la ética de coexistencia y reciprocidad propia a la relación clínica de cuidado, lo cual armoniza con la finalidad de la medicina.

A modo de resumen de lo que entendemos por una relación médico-paciente ajena a las exigencias éticas de cuidado, planteo el modelo biomédico. El modelo biomédico opera como la premisa básica de la medicina que se autodenomina científica. En ésta a la naturaleza humana se le describe e interpreta en categorías biológicas y en particular en el lenguaje de la genética molecular y la bioquímica. El paciente es básicamente un organismo biológico complejo y la enfermedad es desviación de las normas derivadas de parámetros somáticos.

En el orden práctico de la gestión clínica el modelo biomédico con su concepto de enfermedad como mal funcionamiento de un área somática sugiere una conceptualización del médico como ingeniero de habilidad y conocimiento especializado y diestro en la técnica. La enfermedad es un reto técnico y la muerte un desacierto de la técnica en su intento por rescatar al cuerpo de la amenaza a su funcionamiento e integridad.

El modelo biomédico no sólo resulta inadecuado por no representar fielmente lo que una práctica clínica real exige en el cuidado de la totalidad de la persona que experimenta su dolencia, sino por ser capaz de desvirtuar el acto profesional-clínico inspirado en el principio de beneficencia hacia la persona o ser integral del paciente en sus dimensiones simbólico-espirituales y culturales con respecto a su intimidad y vulnerabilidad existencial ante la desintegración de su ser que la enfermedad, dolencia, o heridas le causen.

En contraste al modelo biomédico, (o más bien a modo de complemento), designo el modelo psicobiomédico para el cual propongo como fundamen-

tación ontológica y axiológica una teoría fenomenológica de la intersubjetividad en virtud de la empatía (fenomenología de la intersubjetividad en virtud de la empatía (de Edmundo Husserl y su discípula Edith Stein) a su vez ampliada por la fenomenología del diálogo (Gabriel Marcel y Martin Buber). Quedará así demostrado que las personas por más que valoren su privacidad y reconozcan su intimidad, inescapablemente se constituyen a si significativamente en relación de reciprocidad. Es decir que los valores quedan enunciados en el contexto de la intersubjetividad.

El enfoque fenomenológico nos permite preguntar, ¿cómo es posible que un ser humano se relacione con otro? Es decir, ¿Cuál es la naturaleza del ser persona para que el **(Eigensein)** o ser propio permita o exija un **(Mitsein)** o ser con el otro, al igual que **(Lebenswelt)** o mundo vital a modo de comunicación/comunión (M. Buber) mostrando cuidado y preocupación recíproca por el bienestar y realización de uno para el otro en un contexto de mundo social y físico en común? Se trata de fenómeno del encuentro y participación persona con persona en el ámbito de los valores.

La teoría de la intersubjetividad y su componente esencial - la empatía según presentada por Edmundo Husserl y elaborada por su discípula Edith Stein nos ofrece una fundamentación y dirección a la pregunta enunciada. Sin elaborar las reducciones Husserlianas y sus implicaciones idealistas, me limito a señalar unas definiciones y condiciones de la intersubjetividad que resultan instructivas en la elaboración del modelo psico-biomédico que anticipo.

Empatía es básicamente la conciencia perceptiva en la cual una persona ajena a mi se presenta ante mi.[1]

Tal como nuestra individualidad propia se anuncia en las experiencias propias recibidas, así el otro queda anunciado en las experiencias empáticas. En el primer caso es un anuncio primordial mientras que en el segundo caso se trata un darse no-primordial.

(en Husserl llamado presentificación)

Fenomenológicamente formulado el problema es como constituir significativamente a otro como entidad psico-física, como ego espiritual, y como persona única respetando su alteridad sin provocar extrañeza, amenaza, competencia, y hasta indiferencia u hostilidad para a la vez sin intentar incorporar su yo en dependencia exclavizante.

Para apreciar mejor la relevancia de la teoría de la intersubjetividad en cuanto a un modelo clínico de auténtica co-existencia humana, desglozemos brevemente las condiciones constitutivas de la empatía (Husserl/Stein) en su aplicación al tema de esta ponencia.

I. Cada sujeto en la relación debe ser auto-constituido porque de otro modo no tendría significado en un contexto fenomenológico. Así, sólo quien se experimenta a sí como persona íntegra y de significación esclarecida puede entender empáticamente a otro. Con lo cual el médico -como también el paciente- debe esclarecer el sentido de su propia experiencia de sufrimiento, dolor, y aún de la posibilidad de la muerte. Si entendemos sufrimiento como el desasosiego generado por la percepción de una pérdida actual o potencial de la integridad espíritu-psíquico-fisiológico de la persona en su continuidad temporalizada del existir a partir de un pasado orientado hacia un futuro, entonces es claro que la empatía (base de la compasión) exigen un entender por inferencia analógica del sentido de ser persona del otro como del suyo propio. El diálogo o comunicación participativa y el actuar conjuntamente con otros exige el retener el valor propio de persona y su capacidad de autorealización. Se trata de una co-existencia en virtud del compartir la totalidad, la unidad y la singularidad del otro sin menosprecio de sí.

II. Cada sujeto debe ser constituido como tal en todo otro sujeto, porque de otro modo nos instalaríamos en un solipsismo sin comunicación posible. Es decir cada sujeto en relación debe reconocer que el otro es sujeto y que para el otro él es también sujeto de tal manera que la relación médico-paciente no degenere en una en la cual un sujeto cosifica y despoja al otro de su condición existencial y a la vez se siente amenazado por otro que le pueda reducir a menor objeto inanimado.

El cuerpo vivenciado del otro -cuerpo que le es propio en analogía al mío propio- se presenta o apresenta, (intencionalidad constituitiva-empática) no como mera entidad física sino como punto de referencia de sensaciones, como de orientación hacia el mundo espacial, agente de movimiento voluntario vital y no mecanizado, cede de una individualidad psíquica y finalmente como persona de singular vida cognoscitiva, volitiva y afectiva de significaciones correspondientes.

III. En la medida de lo posible la constitución intencional del otro debe corresponder a su propia auto-constitución, ya que de otro modo no tendría validez ontológica ni seriedad axiológica. Así, el médico complementa su diagnóstico clínico con el cultivo de la empatía -lo que no es estrictamente sentir el sufrimiento individual y privado del otro o captar a cabalidad y con certeza la trayectoria total, en unidad y singularidad de la otra persona. Para la empatía podría ser suficiente tres tipos de información: hechos constituyentes de la situación o vivencia, los valores del paciente, trayectoria existencia de éste en copresencia no conflictiva

con las vivencias del médico. El médico asume que el paciente necesita y tiene la posibilidad de proyectarse desde su centro (su integridad) y de participar en valores (sobre esto hablaremos al final).

El médico empático capta que el paciente como sujeto y yo profundo es quien se afecta por la enfermedad y se siente amenazado de perder su integridad y singularidad. El sufrimiento es individual y privado, pero el reconocerlo, sin lo cual no hay cuidado médico real, exige un entendimiento capaz de trascender la exactitud y precisión de la objetividad científica hacia lo que Marcel llamaría "presencia" ante el "misterio" del otro-i,e, la identidad-continuidad temporal-ideales de la persona en su ambiente físico/social.

IV. Cada sujeto debe constituir un mundo de objetividad que es de algún modo idéntico al mundo constituido por los otros sujetos, de otra manera no habría ámbito común por la comunicación -de este modo la relación médico-paciente se constituye en un contexto de comunidad profesional-familiar-cultural-social con sus correspondientes obligaciones de justicia social superando el intercambio individual y aislante de deberes- derechos entre profesional-paciente.

Hemos presentado la empatía intersubjetiva como un tipo de transferencia de una interioridad personal que cobra contacto con el sufrimiento de otra por vía de una percepción de su corporeidad en cuanto vivencia significativa. Estudiosos como Pellegrino y Thomasna, entre otros, no cesan de señalar la importancia de esta transferencia para el acto clínico constitutivo del cuidado médico y del sentido propio de una medicina moderna que valora la auto-percepción de lo corpóreo como significación para el paciente que ha de participar en el cuidado clínico de modo articulado y con discernimiento.[2]

Estamos ante un modelo de la relación médico-paciente descrito por la fenomenología de la intimidad y del diálogo y al cual designamos como modelo: existencial-psíquico biomédico (E.P.B.). Las relaciones íntimas suponen una valorización mutua de carácter intrínseco y de promoción benevolente (confianza, apertura y disponibilidad interior matizadas por la auto-disciplina y purificación hacia la nobleza) a la vez que beneficiente (creativa y valientemente efectiva. A su vez la relación supone diálogo en el sentido de M. Buber -un comunicar a otro la propia experiencia de tal modo que penetre el círculo de experiencias del otro y lo suplemente desde su interior, y así sus percepciones propias pasan a formar parte del mundo del otro. Sin diálogo no hay co-existencia.

¿Cómo ha de lucir este modelo de la relación que promete ser una aportación a una ética de la co-existencia más allá del legalismo e impersonalidad del lenguaje empresarial de derechos en conflicto?

El modelo psico-biomédico debe incorporar la captación pre-reflexiva o vivencia existencial de la enfermedad según descripción fenomenológica. Es decir, el médico debe cultivar la intuición y la introspección para así captar o entender el sentido de la enfermedad como vivencia subjetiva.

Este entendimiento provee un horizonte de experiencias de dolor, miseria, incapacitación al igual que placer, esperanza, alivio, que enriquece en la práctica clínica como actividad profesional eficaz al igual que reverente. Ante todo se reconoce que la enfermedad es una condición que experimenta la persona y no sólo una dimensión de ésta. Es la persona que experimenta el dolor, la pena,la incapacitación, el deterioro, la debilidad vinculada al quebranto somático. Pero es también esa persona la que interpreta su dolencia como motivo de desasosiego, dislocación, dependencia con la posible disolución del yo, pérdida de la propia integridad y la interrupción súbita de la historicidad de la propia existencia. Estudiosos del fenómeno de las dolencias en su dimensión subjetiva apuntan a la ansiedad, culpabilidad, ira, miedo y hasta hostilidad que no sólo emanan de la inter-pretación personal de la condición patológica sino que pueden agudizar esta condición en sí. Más aun y específicamente el dolor es un fenómeno complejo. De modo que aunque el dolor es un mecanismo avisor y protector en beneficio del organismo que le indica sobre algún daño al organismo, también impide al doliente de trabajar, pensar claramente, le dificulta el sueño, le resta apetito, disminuye el ánimo e inclusive le atrofia la capacidad volitiva para vivir. Estudios fenomenológicos han revelado que la persona enferma con frecuencia se concentra en su corporeidad adolorida, herida o incapacitada, alterando así la unidad pre-reflexiva de mente y cuerpo, con la cual objetiva su cuerpo como algo amenazante.

Se genera la confianza mutua que facilita el acto profesional de la práctica clínica-beneficiante. El paciente puede así tolerar el desequilibrio, el asalto, el reto a su persona que la enfermedad supone y a la vez ensayar una nueva integración de sí y su historia personal a la realidad de la dolencia. Como dice Kass:

> *Precisamente estos actos de auto-conciencia y de auto-reconocimiento son signos no de ser mero cuerpo, de nuestra inferioridad, sino de algo muy especial, de algo que a pesar o quizás precisamente*

por estar consciente de la necesidad, afirma la vida, la totalidad y lucha por preservarla y dignificarla... Un buen médico hace del apoyo de la dignidad un aparte significativa de su tarea profesional, ofreciendo esperanza sin engaño, conduciéndose con seriedad pero sin solemnidad, impartiendo consejo al igual que respetando la libertad (traducción propia).[3]

El modelo E.P.B. presenta una ética del cuidado como autorenuncia concentrada en la necesidad del otro y la búsqueda de su bienestar. Esta ética necesita de un pensar intuitivo que presente al otro como un otro yo -con quien se entra en contacto íntimo pero reverente, ante quien la corporeidad en una vivencia y no captación meramente objetivante. Con ese otro "yo" se articula una relación médico-paciente (lo que interesa destacar en esta presentación) que genera obligaciones de beneficiencia más allá de la estrecha consideración de la autonomía persona-individual hacia un sentido de la comunidad humana solidaria coexistente en el contacto mismo de las dos personas médico-paciente.

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Originals Articles:

T-Cell Rich B-Cell Lymphoma Masquerading as Hodgkin Disease: Excellent Outcome to Inadequate Therapy

Luis Acabá, M.D., Norberto Santiago, M.D., Enrique Vélez García, M.D., FACP

Summary: T-cell rich B-cell lymphomas (TCRBCL) are characterized as non-Hodgkin lymphomas with a minor population of malignant B-cells scattered among predominant, reactive T-lymphocytes. This entity can easily be confused with lymphocyte-predominant Hodgkin disease (HD-LP), resulting in inappropriate therapy and a poor outcome. Because of their similarity, the pathology of patients treated for HD-LP with an inadequate or short-lived response to therapy should always be reviewed by an expert hematopathologist. We describe the first reported patient in Puerto Rico with TCRBCL, originally diagnosed and treated as HD-LP. Although the patient received partial, substandard therapy for TCRBCL, an excellent prolonged complete response ensued, thus, giving further credence to the fact that malignant lymphomas and TCRBCL in particular, are a protean group of disorders which should be precisely and accurately classified before the proper therapeutic strategies can be outlined.

INTRODUCTION

T-cell rich B-cell lymphomas (TRCBCL) have been described as a sub-type of non-Hodgkin lymphomas characterized by a minority of neoplastic B-cells with an abundance of benign, reactive T-cells. The predominance of T-cells is thought to result from either an unusual host response or as a result of the stimulatory effects of cytokines secreted by the neoplastic B-cells[1,2]. Others[3] have hypothesized on a possible causative role by the Ebstein-Barr virus. The clinical manifestations, as well as the morphology of the B-cell population are similar to Hodgkin disease, lymphocyte predominance sub-type (HD-LP), with which it is occasionally confused[4]. The distinction between these two entities is of the utmost clinical importance, since the therapeutic approach is different in each case. Because of their similarity, review of the histopathologic material of patients previously diagnosed as HD-LP with either uncharacteristic clinicopathological findings or poor clinical responses to therapy, is often indicated and necessary. We describe a patient with TCRBCL who was originally diagnosed and treated as HD-LP. Although the patient was poorly compliant with a therapeutic strategy not considered optimal for B-cell lymphomas, an excellent sustained response was obtained. Thus, the experience in this patient illustrates the importance of histopathologic review in patients with HD-LP, as well as in patients with malignant lymphomas in general.

CASE REPORT

A 22 year old male presented with bilateral cervical and supraclavicular lymphadenopathy that developed over a twelve months period. There was no history of weight loss, fever, or night sweats. The past medical history was unremarkable and there was no history of any medication or drug intake. Phisical examination revealed multiple bilateral, cervical lymphadenopathy, the largest measuring 5 x 5 cm, left supraclavicular lymphadenopathy measuring 6 x 5 cm, and left axillary lymphadenopathy measuring 2 x 2 cm. The splenic border was palpable 3 cm below the left costal margin. There were no other significant findings on physical examination.

Complete blood count revealed a leukocyte count of $8 \times 10^9/L$, a hemoglobin of 14 g/dl and a platelet count of $235 \times 10^9/L$. Serum chemistry values revealed an elevated serum lactose dehydrogenase level of 314 U/L. All other serum chemistries, as well as liver function tests were entirely normal. The chest X-ray as well as the chest computerized tomographic (CT) scan revealed a normal sized mediatinum and no other abnormalities. No mediatinal lymphadenopathy was observed. Abdominal and pelvic CT scans revealed homogenous splenomegaly, however, lymphadenopathy was not present. Bilateral bone marrow aspirations and biopsies failed to reveal evidence of lymphoma in the bone marrow.

A biopsy of a left cervical node was performed and was diagnostic of HD-LP. The patient underwent a staging exploratory laparatomy with splenectomy,

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liver biopsy and multiple lymph node sampling which failed to reveal any significant abnormality on pathologic examination.

The patient was begun on radiotherapy using the mantle technique, but his compliance with the therapy was inconsistent, resulting in frequent dalays. Over a period of 60 days, seventy three percent (73%) of a planned dose of radiation therapy (2,560 cGy of planned 3,500 cGy) was administered. The patient was then lost to follow-up for several months. No additional radiation therapy was administered. Reevaluation after the patient returned to seek medical care again, revealed an excellent response to the previous therapy as judged by complete resolution of the lymphadenopathy and by the absence of any abnormality in laboratory tests, imaging studies or bone marrow examination.

At this time we conducted a review of the original left cervical noce biopsy. The abnormal lymph node showed effacement of the architecture by small lymphoid cells, which showed some cytologic atypia. Scattered among these cells, throughout the lymph node were large cells with somewhat lobulated vesicular nuclei with occasional abnormal mitoses. Paraffin immunoperioxidase studies were performed which demonstrated reactivity of the atypical large cells with the B-cell marker CD20, whereas the small lymphoid cells showed strong reactivity with the T-cell marker CD43, consistent with the diagnosis of TCRBCL.

Due to the elapsed amount of time and the excellent response to radiotherapy, the patient was observed without further therapy. The patient is now in complete remission on-going after six (6) years or initial therapy.

DISCUSSION

TCRBCL is a morphologic and biologic variant of B-cell, large cell, non-Hodgkin lymphoma. It does not appear to be a distinct clinicopathologic entity[5,6], except for the fairly consistent association with splenomegaly which is present in over one third of patients and is perhaps a characteristic clinical sign. There have been reports[7,8] on the poor outcome of TCRBCL, when it is erroneously treated as Hodgkin disease. These patients received combination chemotherapy, although not regimens considered optimum for aggressive B-cell lymphomas. It would, therefore, seem a good idea to review the histopathologic sections with HD-LP, especially those with an inadequate or short-lived response to therapy. This review might uncover that at least some of these patients have TCRBCL rather than HD-LP.

We describe the first patient with TCRBCL reported in Puerto Rico. This patient had an excellent response to radiotherapy which would seem inadequate treatment for this disorder, but which was administered under the erroneous impression that the correct diagnosis was HD-LP.

Although the treatment of a patient with Ann Arbor stage IIA B-cell non-Hodgkin lymphoma is debatable, most centers would treat such a patient presenting with four (4) nodal sites of disease, elevated LDH and largest lymphadenopathy diameter of 6 cm with combination chemotherapy, with or without locoregional irradiation[9]. The patient herein presented only received radiotherapy and even that was incomplete with delivery of 73% of the planned dose without a booster to involved sites of disease. Yet, the patient remains in sustained complete remission after 6 years of follow-up. This demonstrates that the response of TCRBCL, as that of other non-Hodgkin lymphomas is may be highly variable. This emphasizes the importance of performing an accurate and precise histopathologic classification before outlining the appropriate therapeutic strategies. Often, this process will entail careful review of the biopsy material by an expert hematopathologist, as well as the coordinated utilization of other more sophisticated techniques such as mmunoperoxidase and cell surface markers to confirm the precise origin of the malignant lymphoma.

Resumen: Los linfomas de células-B ricos en células-T (LCBRCT) se caracterizan por tener una población menor de células malignas de tipo B dispersas dentro de una población mayor de linfocitos T reactivos. Esta entidad puede confundirse con la enfermedad de Hodgkin, subtipo predominancia linfocítica (EH-PL), resultando en tratamiento inapropiado y en un desenlace pobre. Por sus semejanzas, la patología de pacientes con EH-PL con una respuesta inadecuada al tratamiento, debe ser rutinariamente revisada por un experto hematopatólogo. Se describe el primer paciente informado en Puerto Rico con LCBRCT, originalmente diagnosticado y tratado como EH-PL. Aunque recibió un tratamiento parcial y considerado inferior para LCBRCT, el enfermo ha tenido una remisión excelente y prolongada a este tratamiento, confirmando así la creencia que los linfomas malignos son un grupo variable de condiciones que deben clasificarse en forma precisa antes de delinearse una estrategia terapéutica apropiada en cada caso individual.

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Originals Articles:

Sonographic Diagnosis of Complete Mole and Co-existent Fetus: Case Report

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Summary: Coexistence of a complete mole and a normal fetus is a rare event. First trimester sonographic appearance of a complete molar pregnancy with a coexistent fetus and its sonographic differentiation from entities that may simulate a hydatidiform mole in its early stages is discussed.

The reported case is one of a 19 y/o woman G_2P_{1001} who was hospitalized several times for abnormal uterine bleeding.

Characteristically, the sonographic appearance of a hydatidiform mole is of a moderately echogenic, multicystic intrauterine soft tissue mass. In this particular case, the initial presentation was that of a complex intrauterine fundal mass adjacent to a normal embryo, thus molar pregnancy was considered as part of the differential diagnosis. Doppler evaluation of the echogenic intrauterine mass has been proposed in addition to HCG evaluation, in order to differentiate from trophoblastic and non-trophoblastic disease. In differentiating between a partial and a complete molar pregnancy it is most important to realize that the diagnosis is difficult by ultrasonography because both present with the same multicystic or vesicular pattern. However, if there is a coexistent fetus such as in our reported case, the differentiation would be possible on basis of the presence of a sonographically normal placenta separated from the degenerated placenta.

Introduction

Coexistence of a complete mole and a normal fetus is a rare event. Such phenomenon occurs in 0.01% to 0.001% of all gestations[1] and in 2% of all molar pregnancies[2].

Most hydatidiform moles are complete moles having a 46XX karyotype. Both x chromosomes are of paternal origin, secondary to a fertilization of an empty egg by a haploid sperm (23X). Another genetic type which presents less frequently is 46XY chromosomal component, resulting from fertilization of an empty egg by two different haploid sperms[3,4]. It has been postulated that the rare occurance of a complete molar pregnancy coexisting with a normal fetus is the result of a twin dizygotic pregnancy in which one of the gestational sacs degenerated into a complete mole[2,3,4,5].

An incomplete or partial mole usually presents with a triploid karyotype, being 69XXY 80% of them, and a coexistent defective fetus also of triploid karyotype.

In this case report we will discuss the first trimester sonographic appearance of a complete molar pregnancy with a coexistent fetus and its sonographic differentiation from entities that may simulate a hydatidiform mole in its early stages.

Case Report

A 19 year old woman, G_2P_{1001} was admitted to a hospital for abnormal uterine bleeding at her 8th week of gestational age by last menstrual period date. Ultrasonographic examination showed a well-defined intrauterine sac containing a normal embryo with a mean gestational age of 9.2 weeks. Embryonal movements and cardiac activity were identified. Superior to the embryonal sac, a fundal, echogenic and multicystic, complex mass with crescentic hypoechoic areas associated to its periphery, was seen (Figure 1). Diagnostic impression included hydatidiform mole with intrauterine pregnancy and subchorionic hemorrhage. Subsequent serial serum titers of B-HCG obtained at an outpatients clinic were: 466, 438 UI/L, 562,200 UI/L and 546,200 UI/L.

Three weeks after the initial hospital admission, the patient was re-admitted due to another episode of abnormal uterine bleeding. Sonographic re-examination showed a single, viable, intrauterine pregnancy of approximately 12.5 weeks of gestational age by last menstrual period date, as well as by the obtained

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Fig. 1. Longitudinal view of the gravid uterus shows the 9 weeks embryo, and a complex mass at the fundal aspect of the uterus.

sonographic parameters of crown-rump length, biparietal diameter and head circumference. No gross fetal anatomical abnormalities were detected. The normal placenta was posteriorly located with smooth contours and a homogeneous echotexture.

Superolaterally, to the right of the gestational sac, a complex mass, of inhomogeneous echotexture was identified presenting multiple small cystic compartments. When compared with previous sonogram, the mass was found to be significantly larger (Figure 2 and 3). Bilateral theca lutein cysts were also identified (Figure 4).

Serum titers of B-HCG were 2,511,964 IU/L. Patient was admitted with the presumptive diagnosis of complete hydatidiform mole with coexistent fetus in view of the normal placental tissue that was also observed.

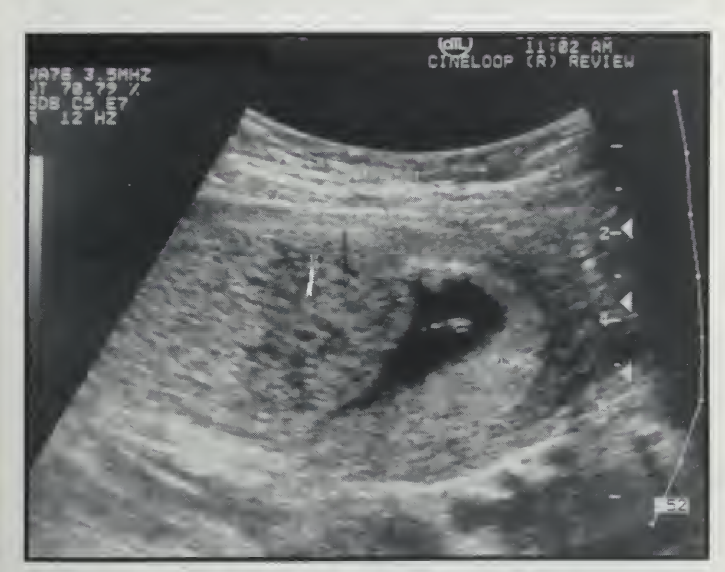


Fig. 2. Transverse view of the gravid uterus shows a normal placenta along the posterior and left lateral aspect of the uterine wall. Molar tissue is seen to the right side.



Fig. 3. Longitudinal view shows the normal, 12 weeks fetus, and molar tissue anteriorly.

Suction evacuation followed by sharp curettage of the uterus was performed. Abundant vesicular tissue was obtained, as well as a morphological normal fetus with its own sac and placenta. Pathologic analysis confirmed the diagnosis of complete hydatidiform mole and embryo with immature placenta.

Discussion

The pathophysiology of a hydatidiform mole is believed to be the persistent hydatid swelling of a blighted ovum´s chorionic villi in a missed abortion. Pathologic characteristics of hydatidiform mole are marked edema and enlargement of the chorionic villi, disappearance of the villus blood vessels, proliferation of the lining trophoblast of the chorionic villi and absence of fetal tissue[4].



Fig. 4. Transverse view of right adnexal region shows a theca lutein cyst.

Characteristically, the sonographic appearance of a hydatidiform mole is of a moderately echogenic, intrauterine soft tissue mass. Typically, numerous, generally small, cystic areas are seen within the mass. In its early stages, the echogenic mass may cause the myometrium to be perceived less echogenic.

It is very important to note that the above mentioned typical sonographic appearance of a hydatidiform mole is suggestive of a second trimester mole. First trimester molar pregnancy may give the sonographic impression of a threatened abortion with hemorrhage, or even a degenerated myoma.

In this particular case, the initial presentation was that of a complex intrauterine fundal mass adjacent to a normal embryo, thus molar pregnancy was considered as part of the differential diagnosis. The clinical correlation of the B-HCG levels made the diagnosis of molar pregnancy a certain one.

Doppler evaluation of the echogenic intrauterine mass has been proposed in addition to HCG evaluation, in order to differentiate from trophoblastic and nontrophoblastic disease. Doppler evaluation of trophoblastic tissue reveals a low impedance, high flow state with high systolic and diastolic frequencies as opposed to low-flow, higher impedance states seen in a non-viable gestation or degenerating myofibromas[5].

Another sonographic finding that helps in the diagnosis of trophoblastic disease is the presence of theca lutein cysts. The theca lutein cysts are secondary to an elevated level of HCG and are seen in 20% to 50% of patients with trophoblastic disease.

In differentiating between a partial and a complete molar pregnancy it is most important to realize that the diagnosis is difficult by ultrasonography because both present with the same multicystic or vesicular pattern. However, if there is a coexistent fetus such as in our reported case, the differentiation would be possible on basis of the presence of a sonographically normal placenta separated from the degenerated placenta[6]. The diagnosis of a complete mole and coexistent fetus must always be confirmed pathologically since this type of lesion has the same malignant potential as a single molar pregnancy, that is approximately 20% probability of developing a malignant choriocarcinoma.

A baseline chest radiograph and a computed tomography of the chest are always obtained when examining the patient for evidence of metastatic disease, as well as follow up serum B-HCG levels which should decrease toward zero after approximately 12 weeks of molar pregnancy evacuation[4].

Resumen: La coexistencia de una mola completa y un feto normal es un evento poco usual. En este reporte de caso clínico se discute la apariencia sonográfica durante el primer trimestre de un embarazo molar completo coexistiendo con un feto y la diferenciación sonográfica de entidades que podrían simular una mola hidatidiforme en sus etapas tempranas.

El caso que reportamos es el de una mujer de 19 años G_2P_{1001} la cual fue hospitalizada varias veces debido a sangrado uterino anormal.

La apariencia sonográfica característica de una mola hidatidiforme es la de una masa multiquística de tejido blando, moderadamente ecogénica. En nuestro caso clínico, la presentación inicial fue la de una masa compleja intrauterina fundal, adjunta a un feto normal, por lo cual, embarazo molar fue considerado como parte del diagnóstico diferencial. La evaluación con "doppler" de una masa ecogénica intrauterina ha sido propuesta además de la evaluación de niveles cuantitativos de HCG en sangre, para poder diferenciar entre enfermedad trofoblástica y no trofoblástica. El poder diferenciar entre un embarazo molar completo y uno parcial sonográficamente es difícil porque ambas condiciones presentan con el mismo patrón multiquístico o vesicular. Sin embargo, si coexiste un feto, como en el caso que reportamos, la diferenciación sería posible en base de la presencia de una placenta sonográficamente normal separada de la placenta con cambios de degeneración trofoblástica.

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Artículos Originales:

Resultados Mediatos de la Vagotomía Altamente Selectiva

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Summary: A retrospective longitudinal study of 99 patients who underwent Highly Selective Vagotomy for duodenal ulcer was done. The follow-up period was two years. A 41-question survey, made for this purpose, was conducted. The survey meets the requierements of this investigation. The study assessed the effect of this technique. The patients stayed in the hospital for a short period of time after surgery. They did not need any blood transfusion. The recurrence percent was very low.

Introducción

La úlcera crónica del duodeno es una enfermedad del Homo Sapiens distribuida en todas las latitudes del planeta(1). Dada su larga historia y su naturaleza benigna, el tratamiento prioritario de esta enfermedad ha sido médico; neutralizar el ácido para inhibir la acción proteolítica de la pepsina o inhibir la secreción ácido péptica del estómago. También se ha informado la posibilidad de curación mediante la destrucción de una bacteria del género Campilobacter pyloris(2).

Algunos autores(3,4) han reportado con el el tratamiento médico curaciones que fluctúan del 80 al 90%. Para esto es necesario que el paciente mantenga indefinidamente la medicación y el régimen higiénico dietético, pero esto no siempre es posible. A nuestro juicio las "curaciones médicas" constituyen, en un elevado por ciento de casos, períodos de remisión más o menos largos, por lo que estos pacientes transitan por el camino de la cronicidad, a lo largo del cual quedan expuestos a las complicaciones clásicas de esta enfermedad, que cuando aparece se impone el tratamiento quirúrgico, mutilante y destructor del segmento antropiloro duodenal: Vagotomía con proceder de drenaje o con resección gástrica.

No fue hasta 1957 que Griffith y Harkins(5) realizaron en el animal de experimentación, una técnica quirúrgica más fisiológica en relación con los procedimientos anteriores, la cual consistió en la desnervación selectiva de la masa celular parietal, que conserva intacta la inervación antral y prescinde de un procedimiento de drenaje. Esta técnica fue practicada por primera vez en el hombre, sin proceder de drenaje en 1970 por Andreep y Jensen en Dinamarca(6) y ese mismo año por Johnston y Wilkinson(7) en Inglaterra. En Cuba por el Dr. Abella en 1977(8).

El presente trabajo es dar a conocer de forma preliminar el desarrollo y el resultado de esta técnica quirúrgica en el tratamiento de la Ulcera Péptica Crónica duodenal en nuestra institución hospitalaria.

Análisis y Discusión de los Resultados

De los 99 pacientes que constituyeron la muestra estudiada, 77 representaron el sexo masculino y 22 al femenino para una relación de 3/1. Estos resultados son similares a los obtenidos por otros autores(1,4,10) y parecen estar relacionados, como ha señalado Cox(13) con una mayor extensión de células parietales.

El grupo etáreo mayormente afectado se encuentra entre los 32 y los 60 años de edad, período de la vida en que es necesario afrontar grandes responsabilidades familiares, sociales y laborales. Abella (9) en un estudio realizado en 171 pacientes reporta una edad promedio de 39 años con las mismas consideraciones al respecto.

La tabla I representa la evolución pre-operatoria de la úlcera duodenal, viéndose a las claras que casi el 70% de los mismos fluctúan entre 3-19 años y 9 conocían de su patología desde hacía más de 20 años.

El hecho que los pacientes transiten por un largo camino en el tratamiento médico como los escollos de las complicaciones, entre ellas las que le pueden causar la muerte, nos hace reflexionar en la necesidad de una cirugía fisiológica temprana y segura que le posibilite mejor expectativa de vida.

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Tabla I.
Pacientes operados según evolución pre-operatoria de la úlcera.

EN AÑOS	No.	%
- 3	20	20.20
3 - 19	68	68.68
+ 20	9	9.09
Se desconoce	2	2.02
TOTAL	99	100.00

Fuente: Formulario

Con el advenimiento en el tratamiento médico para la úlcera duodenal con los bloqueadores de los receptores H-2 de la histamina, se abrió un nuevo camino de esperanza a estos pacientes, reportando curaciones que oscilan entre un 80 y un 90% (3,4): pero para esto es necesario mantener indefinidamente la medicación y el régimen higiénico dietético, pero esto no siempre es posible.

El reflejo de lo anteriormente señalado se expone en las tablas II y III; en el primero se confirma que el 72% de estos pacientes llevaron tratamiento con Cimetidina. Al ver la tabla V nos demuestra que de los 72 pacientes que llevaron tratamiento con Cimetidina, más del 60% no lo pudo mantener durante un año por dificultades para la obtención de las tabletas o porque al faltarle por un tiempo hacían recaída de la enfermedad. Esto confirma lo planteado por Abella (9) en su publicación.

Las consideraciones para el tratamiento quirúrgico fueron evaluadas todas por el gastroenterólogo de nuestro hospital, basados en el fracaso del tratamiento médico con Cimetidina por más de un año, con antecedentes de sangramiento digestivo alto (S.D.A.),

Tabla II.
Pacientes operados según tratamiento anterior con Cimetidina

	No.	%
Sí	72	72.73
No	27	27.27
TOTAL	99	100.00

Fuente: Formulario

pacientes que con larga historia de úlcera duodenal presentaban dificultad actual para llevar el tratamiento médico y con el antecedente de otra complicación como lo es la perforación. Estas consideraciones se reflejan en la tabla III. Un aspecto importante para el diagnóstico positivo lo constituyó la gastroduodenoscopía que fue realizada en el ciento por ciento de los pacientes. Esto da la posibilidad de siempre haber operado al paciente que en realidad presentaba una o más úlceras del duodeno.

Tabla III.
Pacientes operados según indicaciones quirúrgicas

	No.	%
Con dificultad p/ llevar tratamiento	37	37.37
Fracaso al tratamiento con Cimetidina	36	36.36
Con antecedentes de sangramiento digistivo alto	17	17.17
Con antecedentes de úlcera perforada	3	3.03
Combinación de ambas	6	6.06
TOTAL	99	100.00

Fuente: Formulario

La tabla IV da a conocer la localización y el tipo de úlcera, demostrando que las úlceras del bulbo únicas presentaban el 80% y el resto, 19, fueron bulbares dobles (Kissing ulcers).

La estadía post-operatoria fue significativamente corta, el 70% de los pacientes se le dió el alta al tercer día del post-operatorio y ninguno se fue del hospital después del séptimo día, contribuyendo estos resultados a decrecer los gastos hospitalarios.

Tabla IV.
Pacientes operados según localización de la úlcera

	No.	%
Bulbar única	80	80.80
Bulbar doble	19	19.19
TOTAL	99	100.00

Fuente: Formulario

La única complicación transoperatoria de la serie sin secuelas ulteriores fue la rotura del brazo en dos pacientes. Sin embargo, otras complicaciones han sido señaladas: perforación esofágica, perforación gástrica y necrosis de la curvatura menor (10). Couinaud (11) incluso, ha reportado 2 muertes secundarias a necrosis de la curvatura menor.

De los 99 pacientes operados ninguno necesitó ser transfundido, ya que lo generoso de la técnica no lo requiere, si se realiza con los principios quirúrgicos elementales para su realización. El control endoscópico post-operatorio nos permite precisar la evolución de la úlcera. En este estudio se le programó endoscopía al mes, a los 6 meses y al año del post-operatorio. La tabla V nos muestra que 98 pacientes se realizaron el control endoscópico al mes de operados, 74 asistieron a la segunda endoscopía y 55 a la tercera. Solamente hubo un paciente, (el primer operado de la serie que nunca asistió a la consulta del post-operatorio. Sabemos por referencia que se encuentra bien desde el punto de vista clínico.

Los resultados de las endoscopías realizadas en el post-operatorio se reflejan en la tabla VI. Al mes de operados 97 pacientes habían cicatrizado la úlcera duodenal, los que recidivaron hasta el momento lo han hecho antes de los 6 meses. De las 7 recurrencias, 5 han cicatrizado con tratamiento médico con Cimetidina + Metronidazol y dos están pendientes de control endoscópico después del tratamiento médico. El porciento de recurrencias en nuestra serie a los dos años de operados es de 7.07. Cabe esperar un incremento de las recidivas a medida que transcurra el período post-operatorio.

Tabla V.
Pacientes operados según control endoscópico post-operatorios

TIEMPO	No.	%
Al mes	98	98.98
A los 6 meses	74	74.75
Al año	55	55.55

Fuente: Formulario

Adreep y Kennedy (12,13) en su serie reportan 10% de recidiva a los 5 años, Kromborg y Madsen (14) tienen una tasa superior al 20% y Abella (9) reporta un 16.4% de 171 pacientes operados. Johnston (15) publica el porciento de frecuencia en valores que fluctúan del 3 al 40% con una media de 10 y plantea que la recidiva está en relación con una vagotomía incompleta y es más elevado en las úlceras de la localización pilórica y prepilórica.

Tabla VI.
Pacientes operados según resultados control endoscópico

TIEMPO	No.	ULCERA CICATRIZADA	RECIDIVA
Al mes	97	97	0
2 - 6 meses	74	67	7
Al año	55	53	2

Fuente: Formulario

Conclusiones

1. El número mayor de pacientes operados por úlcera duodenal del sexo masculino en nuestra serie superó el 75% de la muestra.
2. El grupo etáreo de pacientes afectados de esta patología representado por el 78% de la muestra estaba comprendido entre los 32 y 60 años de edad.
3. El 80% de los pacientes sufrían de la enfermedad úlcero péptica por más de tres años.
4. La Cimetidina en nuestro medio no curó la úlcera duodenal en pacientes que le tomaron de forma controlada por más de un año en el 36% de la muestra.
5. La dificultad para llevar tratamiento médico con bloqueadores de los receptores H-2 constituye una indicación para la Vagotomía Altamente Selectiva en más del 35% de los pacientes.
6. El 20% de los pacientes eran portadores de úlceras dobles en el bulbo duodenal.
7. La corta estadía post-operatoria incluyó favorablemente en la disminución de los costos hospitalarios en los pacientes operados.
8. Ninguno de los pacientes fue transfundido, evitando algún tipo de complicación por este proceder.
9. Al año de operados se encontró un 7.07 de recidiva ulcerosa.

Resumen: El universo de esta muestra está constituido por los primeros 99 pacientes operados en esta institución hospitalaria desde mayo de 1991 con la técnica de la Vagotomía Altamente Selectiva por el Servicio de Cirugía General, los cuales cumplieron 2 años de operados.

Para lograr nuestro objetivo se confeccionó un formulario al efecto, donde se recogen 42 variables extraídas de los expedientes clínicos de cada paciente y que constituyen a la vez, la evolución clínica post-operatoria seguida en una consulta creada al efecto. Estos datos se procesaron en una microcomputadora de nuestro centro donde se le realizaron pruebas de validación de independencia estadística por el método chi-cuadrado con el programa estadístico MICROSTA. Los resultados son expuestos en tablas representativas.

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Originals Articles:

Renal Cell Carcinoma with Cavitoatrial Extension: Case Report and Review of the Literature

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Introduction

Renal cell carcinoma (RCC), also known as the internist's tumor, may masquerade as a variety of different clinical entities as a result of subtle presenting symptoms, physical findings, and laboratory abnormalities.[1] This in turn may account for the relatively high frequency of incidentally discovered lesions during the course of various diagnostic tests.[1] Poor survival rates are attributed to the high tendency for widespread metastases at presentation and its inadequate response to both chemotherapy and radiation therapy.[2] In the absence of effective adjuvant therapy, surgical removal of the intracaval tumor thrombus with radical nephrectomy and regional lymphadenectomy remains as the preferred therapeutic approach.[1,3,5] A case of RCC with cavitoatrial extension in a patient who developed bilateral lower extremity edema after a guillotine type amputation performed for persistent non-healing left foot ulcers and gangrene is reported. Current diagnostic modalities and therapeutic interventions are reviewed.

Key words: Renal cell carcinoma, magnetic resonance imaging, transesophageal echocardiography, metastasis.

Case Report

A 60-year-old black man was referred to our institution for evaluation of a left renal mass with IVC extension incidentally found on workup. Past medical history was significant for arterial hypertension and insulin dependent diabetes mellitus of several years duration. The patient presented to an outside hospital with persistent non-healing ulcers in the left foot for several weeks, that resulted in gangrene and required a guillotine type amputation. Post operative course was complicated with progressive renal insufficiency and bilateral leg edema. A renal ultrasound showed a soft tissue mass in the right kidney and IVC. Computed tomography of the abdomen confirmed the above findings and no distant metastases were present. A bone scan showed no associated bone lesions and a presumptive diagnosis of renal cell carcinoma was made. Surgical resection was considered as a reasonable and viable alternative, for which the patient was transferred to our institution.

On physical examination the patient was well-developed, in no acute distress, afebrile, blood pressure of 110/60 mm Hg, and heart rate of 72/min. Lungs were clear on auscultation with coarse sounds at the bases but no wheezes or rales. Cardiovascular examination was remarkable for a regular rate with a fourth heart sound, a sustained precordial impulse, no palpable thrills, no rubs, no murmurs, and no third heart sound. Abdominal examination was remarkable for a palpable mass in the right flank, without tenderness, and normoactive bowel sounds. Bilateral lower extremity and scrotal edema was evident.

Magnetic resonance imaging (MRI) obtained through the lower chest and upper abdomen showed a 7 cm x 6 cm necrotic mass on the lower pole of the right kidney with tumor thrombus extension into the right renal vein and IVC (Fig. 1). Multiple small periaortic nodes were identified.

A transesophageal echocardiogram (TEE) performed at the time of the surgery (Fig. 2) showed marked distention of the IVC with an intraluminal homogeneous echodense structure, consistent with tumor thrombus. This echodense structure was noted to be near the entry orifice of the right atrium. However, no tumor thrombus was noted in the right ventricle or in the main pulmonary artery. The rest of the echocardiographic examination was unremarkable.

The patient underwent uneventful right radical nephrectomy with removal of thrombus from the IVC and placement of a vena cava filter under circulatory arrest. Histopathological examination revealed a moderately differentiated RCC of the clear cell type, Fuhrman grade II, with a prominent aneuploid population and increased proliferative rate (tumor, nodes and metastases classification T3bN0M0) with tumor

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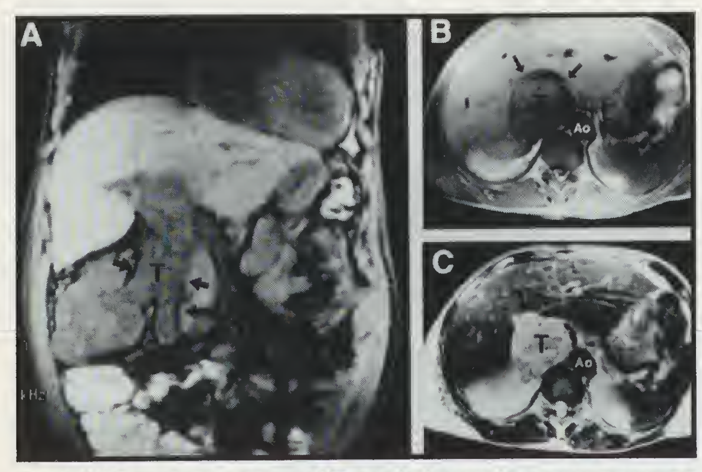


Fig. 1. (A) Representative coronal T_1 weighed magnetic resonance imaging views of a huge mass (t) demonstrated on the lower pole of the right kidney with tumor extension into the renal vein and inferior vena cava (arros). (B) Representative transaxial T_1 weighed image. Note the size of the inferior vena cava, infiltrated with tumor (T) as compared to the aorta (Ao). (C) Representative transaxial T_2 weighed image as shown in B.

extension into the renal vein. The patient had an uneventful postoperative period and was discharged to a skilled nursing facility. He has subsequently undergone completion of a below knee amputation with prosthetic limb placement and is doing well with no evidence of recurrence.

Discussion

Renal cell carcinoma accounts for approximately 3% of all adult malignancies,[6] and is responsible for approximately 85% of all primary renal neoplasms.[1] The overall incidence of renal cell carcinomas is 7.5 cases per 100,000 population, and 25,000 new cases are expected every year.[7,8] These renal malignancies are found twice as frequent in males than females, usually between the fifth and seventh decade.[1,2] Epidemilogic studies have demonstrated that in humans, exposure to lead acetate and cadmium[9] as well as the presence of the Von Hippel-Lindau disease are associate with the development of RCC.[10] Although prognosis is mainly determined by the pathologic stage of the tumor at the time of resection,[11] the nuclear characteristics of the malignant cells as determined by flow cytometry have also been found to influence prognosis.[12] Tumors composed of clear cells are associated with a 5-year survival rate of 58% as compared to those associated with granular cells that have a 46%, while patients with spindle cell carcinomas only have a 23% survival rate.[13]

Renal cell carcinoma is disseminated in 50 to 60% of patients at the time of diagnosis, with a mean survival of approximately 10 months as a result of a poor response to hormonal manipulation, cytokine modulation, and systemic chemotherapy as well as to radiation therapy.[1] Therefore, once the diagnosis is confirmed,

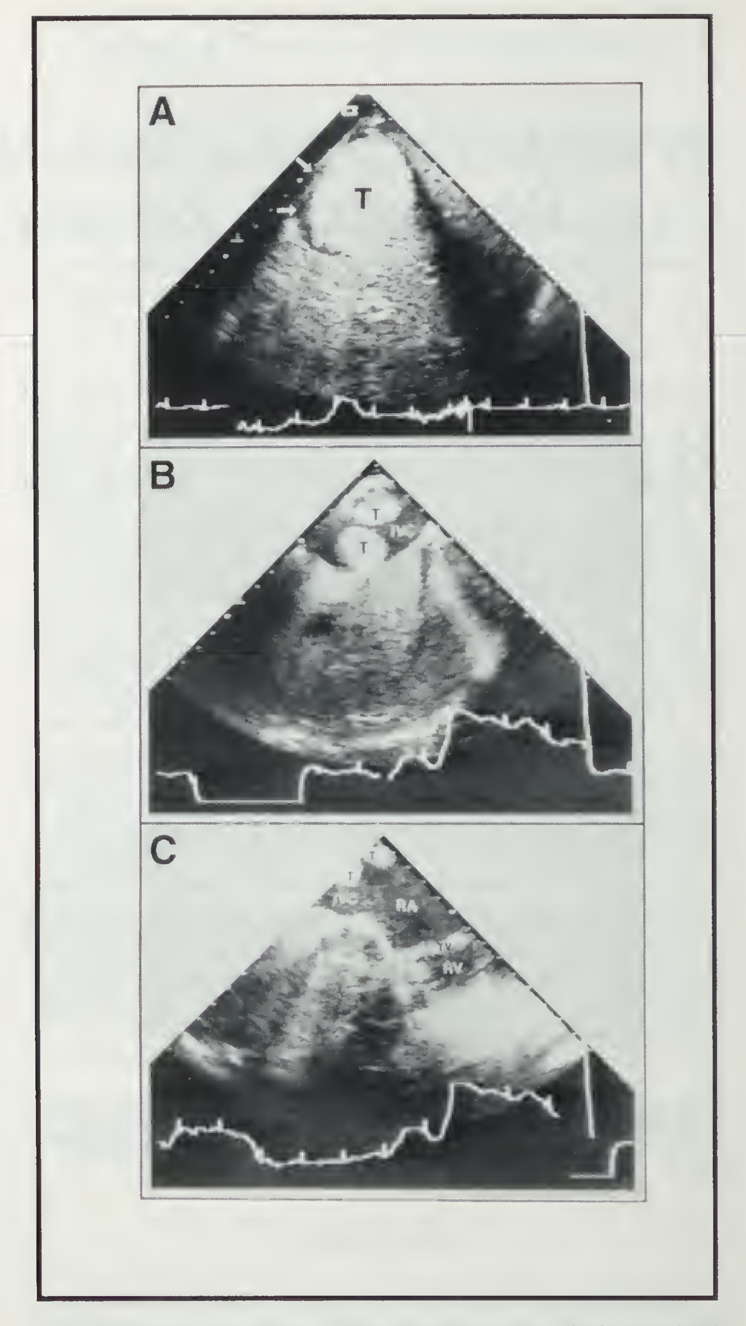


Fig. 2. Transesophageal echocardiographic images in the longitudinal plane demonstrating the presence of cavitoatrial extension of renal cell carcinoma. (A) inferior vena cava (demarcated by arrows) with intraluminal thrombus (T). (B) Two tumor-thrombus heads at the most distal level of the inferior vena cava with extension into the right atrium as seen in C. RA = right atrium, TV - tricuspid valve, RV = right ventricle, and IVC = inferior vena cava.

a careful search for regional lymph vessels, lungs, skeleton, liver, ipsilateral adrenal gland, and contralateral kidney involvement should be throughly evaluated before any therapeutic options are considered. In contrast, patients with disease confined to the kidney tend to have a relative excellent prognosis after cytoreductive surgery.[1,2] Equally reasonable long-term results with complete excision of the renal tumor in patients with associated infrahepatic or retrohepatic caval involvement or extension into the right atrium

has been demonstrated in a combined series of 126 patients by Suggs et al. and Swierzewski et al.[4,5]

The overall incidence of cardiac involvement in patients with RCC is mainly related to vascular extension of the tumor. The latter occurs in 5% to 10%, either as renal vein of IVC involvement.[3] However, propagation of the tumor thrombus from the IVC into the right atrium occurs in up to 40% of these patients.[14,15] This high percentage of cavitoatrial extension of RCC contracts with an overall low incidence of metastatic involvement of the heart in patients with a known primary malignancy (1% to 5%, depending on the primary tumor).[16] No specific sign or symptom has been associated with cardiac involvement in patients with RCC. In a combined series of more than 900 patients, no specific cardiac manifestation was reported as compared to systemic, hematologic, gastrointestinal and endocrine manifestations.[1,2] Isolated case reports have shown that cardiac involvement in patients with RCC may result in syncope,[17] cardiomegaly due to pericardial effusion,[18] new onset of a heart murmur,[19] and pulmonary embolism.[20]

MRI and TEE are currently used to define the vascular extent of the tumor thrombus prior the surgery. MRI offers the potential to produce a three-dimensional view of the tumor, the capability to analyze flow through the major vessels, and to identify the presence or absence of thrombus within the vasculature.[21,22] In addition, TEE offers direct visualization of cardiac chambers, proximal pulmonary vasculature, ventricular and valvular function.[23]

The poor response to systemic therapy and the conflictive results obtained with the use of cytokine immunomodulation, emphasizes the prime role of surgical removal of the affected kidney with regional lymphadenectomy as the gold standard treatment for this malignancy.[1,2,24-26] Cardiopulmonary bypass with circulatory arrest during radical nephrectomy and regional lymphadenectomy in patients with atrial extension of the tumor thrombus, has been demonstrated to be the preferred surgical approach.[27] In contrast, patients with only retrohepatic IVC extension can be managed without this approach with acceptable morbidity and mortality rates.[27] Regardless of the surgical approach, early ligation of vascular pedicle is critical to prevent dissemination of the tumor during the operation.[1]

Our case attests to the already diverse and often obscure nature of presentation of patients with RCC. The incidental diagnosis of this malignancy was obtained during workup evaluation for the development of progressive renal insufficiency and bilateral extremity edema after a guillotine type amputation for persistent non-healing ulcers of several weeks of duration. The latter represent an unusual presentation of renal cell carcinoma, not previously reported.

Resumen: Este caso reporta una presentación atípica de carcinoma renal con extensión cavitoatrial. Se hace un repaso de la literatura con respecto al diagnóstico y manejo de esta malignidad.

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Special Articles:

Bacillary Angiomatosis: Microbiology, Histopathology, Clinical Presentation, Diagnosis and Management

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Summary: Bacillary angiomatosis is known to be caused by a rickettsial organism; Rochalimaea henselae. This causative agent has been compared with different microorganisms and clinical conditions that appear in similar settings but that have been clearly differentiated from them; e.i. Cat-scratch disease (Afipia felis), Bartonella bacilliformis, other Rochalimaea sp., Kaposi;s sarcoma, Lobular capillary hemangioma, Angiosarcoma, and Epithelioid hemangioma.

Clinically the bacillary angiomatosis (BA) skin lesions vary from a single lesion to thousands. The cutaneous lesion appears as a bright-red round papule, subcutaneous nodule, or as a cellulitic plaque. When the lesion is biopsied it tends to blanch-out, bleed, and cause pain. The patient might present with signs and symptoms of chills, headaches, fever, malaise, and anorexia with or without weight loss. The extra-cutaneous lesions found in BA tend to be from multiple organs affecting from the oral lesions to anal mucosal lesions to widespread visceral lesions. The sites of preferences for BA lesion manifestation tend to be the liver, spleen, lymph nodes, and bone. To diagnose bacillary angiomatosis the physician should prepare a differential diagnosis based primarily on its histopathological and clinical characteristics. To confirm the results from the stain, electron microscopy can identify the bacillus and pin-point the diagnosis of bacillary angiomatosis.

The lesions presented byBA respond well to therapy with erythromycin 500mg four times daily for a duration of 2 weeks to 2 months. In case of intolerance to erythromycin the second line of drug that successfully treats the BA bacillus is doxycycline. If relapses of the BA lesion recur, then a prolonged antibiotic therapy is necessary and in AIDS patients the duration may be extended as life-long suppressive therapy.

INTRODUCTION

Bacillary angiomatosis (BA) is a disease first described in immunocompromised patients with human immunodeficiency virus (HIV) by Stoler and collaborators in 1983. He described the disease as an infectious disease of the skin and viscera presenting with vascular lesions and clinically associatedwith multiple subcutaneous tumors accompanied by sweats, fever, and weight loss[1]. The nomenclature given to such a disease was derived directly from its physical and histological characteristics. Bacillary is derived from its histological characteristics from the presence of its clusters of bacillus organisms demonstrated primarily through a special stain, Warthin-Starry silver stain or via observation from electron microscopy of patients affected with Bacillary angiomatosis[2]. The angiomatosis nomenclature is derived from its histological vascular dissemination and its clinical pattern or numerous superficial and/or deep cutaneous vascular nodules or papules in immunocompromised HIV-patients.

Bacillary angiomatosis historicalle holds certain similar features with other organisms that are present in immunocompromised HIV-patients. Histologically, a proliferation of epithelioid endothelial cells, neutrophilic infiltrations, and masses of Warthin-Starry-positive bacteria were found, establishing BA as an infectious vascular process, clinically and histologically similar to the chronic form of bartonellosis[3]. Kaposi's sarcoma was originally thought to be the representative variant of BA since its lesions were circumscribed to similar skin manifestations and HIV-patients, but several cases illustrated that while the two conditions may occur simultaneously, they are clinically, histologically, and pathologically distinct and respond to treatment differently[3]. Though the etiology of bacillary angiomatosis has stumbled from investigation to investigation to find its agent of origin

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since its discovery, it is now known to have two causative organisms of BA, Rochalimaea henselae and Rochalimaea quintana, that have been identified and cultured. The spectrum of the disease in HIV-patients caused by these two bacteria has been expanded to include both isolated bacteremia and other additional organ systems, such as in the liver and the spleen[2].

CAUSATIVES AGENTS

During early investigations of the disease of bacillary angiomatosis its has been postulated that BA was caused by the Cat-Scratch Disease (CSD) bacillus, recently named Afipia felis[19]. Though the clinical features of CSD as currently established versus those of BA are quite dissimilar (Table I). There is an association between A. felis and the BA agent with cat contact, infected lymph nodes of patients with lymphadenitis and cat exposure. Tappero et al. in a case-control study found there was a relationship between environmental exposures and BA disease in HIV patients[8]. The morphologic characteristics of BA seem equivalent to those of Afipia felis; however, the BA microorganism behaves in culture media more like the rickettsial pathogen, Bartonella bacilliformis, than to Afipia felis[5] (Table I). Once the organismo of BA was cultured in a nutritionally enriched media, it was recognized as an extremely fastidious gram-negative bacillus that could hardly be propagated al[18,19,22]. To differentiate further the BA agent from other organisms, an analysis of ribosomal RNA (rRNA) and the polymerase chain reaction (PCR) war performed[6]. These experiments permitted a clear identification of the BA agents unique 16S gene sequence that belonged to a previously uncharacterized microorganism, most closely related to Rochalimaea quintana[6].

TABLE I.

Histological and Clinical Characteristics of BA agent, *A. felis*, and *B. bacilliformis*

Characteristics	BA agent	*A.felis*	*B.bacilliformis*
Culture Media Growth	poor	good	poor
Culture Growth on Blood Media	good	poor	good
Gram Stain	no stain	Gm -	weakly Gm-
Warthin-Starry Stain	WS +	WS +	WS +
Morphology	small pleomorphic bacillus	small pleomorphic bacillus	small pleomorphic bacillus
Flagella	multiple, unipolar	single, subpolar	multiple, unipolar
Clinical Characteristics			
Dermatologic involvement	yes	sometimes	yes
Viscera involvement	yes	sometimes	yes
Lymph node involvement	sometimes	yes	sometimes
Erythromycin treatment reaction	good	poor	good

***Modified from Cockerell CJ et al.*J Invest Dermatol* 1991:97:812-7**

Rochalimaea species are small gram-negative bacilli that are part of the Rickettsiaceae genera[7]. Rochalimaea have four species associated with them; Rochalimaea vinsonii, R. quintana, R. henselae, and R. elizabethae[7]. Adapted from Adal KA, et al. N Engl J Med 1994; 330 (21): 1509-15 from these species only two have been considered as causative agents of bacillary peliosis hepatis and bacteremia. R. henselae was previously cultured from patients with bacteremia, but it wasn't identified per se until it was biopsied directly from cutaneous lesions of bacillary angiomatosis[7]. R. henselae has also been successfully cultured from direct plating of tissue from lymph nodes and spleen, and from serological cultures as well[7].

CLINICAL FEATURES

Bacillary angiomatosis is a disease that primarily affects patients with acquired immunodeficiency syndrome (AIDS). Even though, recent studies have demonstrated evidence of bacillary angiomatosis in patients that are immunosuppressed, such as organ-transplant recipients, chemotherapy patients with malignant conditions, and patients receiving corticosteroid therapy[2].

A. Skin Manifestations

HIV-infected patients usually present with subcutaneous and cutaneous vascular lesions imitating Kaposis sarcoma[9]. Kaposi's sarcoma can be rapidly distinguished from BA due to its distinctive clinical, histological, pathological, and treatment reaction. An example of such distinction is that BA begins as papules or nodules while Kaposi's sarcoma usually starts from patches to plaques and nodules. The absence of papules, macules, and plaques in most cases distinguishes BA from KS, although both diseases can occur at the same time. Some other distinctions include a red rather than a purplish color for BA, absence of angiomatous lesions to other than papular or nodular appearance; the presence of reddish, undefined plaques resembling cellulitis; and the appearance of bone lesions or masses under the skin[3] (Table II). It would be wise to advocate biopsy confirmation of all suspected KS patients with HIV infection.

Skin lesions remain the most common clinical feature in bacillary angiomatosis. They typically present as an elevated, friable, reddish granulation tissue-like papule[20]. This manifestation is present in two-thirds of patients[1]. Skin lesions may present as a cluster (sometimes ranging more than a thousand) or as a single solitary lesion and range in size from 1 millimeter to several centimeters. The total amount of lesions through time tend to increase while their size tend to reduce. The larger lesions tend to erode and start to bleed, while the smaller lesions, histologically, are covered with an attenuated epidermis. When lesions are biopsied they tend to blanch out, and they are also associated with pain and bleeding from such biopsies. Another type of common skin lesion found in patients with bacillary angiomatosis is the subcutaneous

TABLE II.

Histological and Clinical Features that Differentials Bacillary Angiomatosis from Kaposl's Sarcoma.

Features	Bacillary Angiomatosis	Kaposi's Sarcoma
Histologic		
Borders	Sharply delineated	Poorly delimited in papules and macule stages; charply delimited in nodules
Endothelial Cells	Engorged, polygonal, and luminal protrusion	Sindled, fascide formation, no luminal protrusion
Neutrophil count	+++, with leukocytoclastie debris	-
Vascular Space	Round	Slit-like
Lobular Capillary Proliferation	+	-
Bacterial clusters	+	-
Warthin-Starry stain detection	+	-
Clinical		
Lesions	Bright-red round papule, nodule, or tumor, plaques are rare	Violaceous macule, patch, or plaque; regularly follows skin crevice planes
Number of lesions	1-1000's	few to numerous
Blanching	++	+/-
Bleeding	+	-
Pain	++	+/-
Erythromycin Reaction	+++	-

Modified from Adal KA, et al. ***New Engl J Med.*** **1994;330 (21): 1509-15**

nodule. The subcutaneous nodule is present in approximately 25% of these patients. The nodules appear large, deep, and without overlying skin change, as seen in the granulation tissue-like papule. The nodules are firm, but not indurated, and is tender to palpation in that area and if the nodule is large enough it may erode completely to the surface causing an ulcerating tumor. A third cutaneous manifestation typically seen in patients with bacillary angiomatosis is the cellulitic plaque. The percentage of patients affected with cellulitic plaques reaches between the 5% to 10% of the skin lesions[1]. These lesions tend to involve the bone, and commonly presents with erythema and tenderness surrounding the lesion. Patients sometimes present with associated signs and symptoms, such as chills, headaches, fever, malaise, and anorexia with or without weight reduction that might be associated to the skin lesions.

B. Extracutaneous Lesions

The extracutaneous manifestations of bacillary angiomatosis presented in patients with the human immunodeficiency virus (HIV) can be acute, but if these lesions remain undiagnosed and unattended, death might result due to local complications of devasting disseminated infection[18].

The extracutaneous lesions that are usually reported with BA are; oral lesions, nasal, conjunctiva, larynx (laryngeal obstruction), bronchial mucosa, lung, heart (cardiac lesions and endocarditis), peritoneum, diaphragm, liver & spleen (hepatosplenomegaly, liver abscesses, necrotizing splenitis, of hepatic and splenic necrotizing granulomata), lymph nodes, muscles and soft tissues, bone (bone infection), bone marrow, CNS (brain abscesses, aseptic meningitis, and unreported AIDS encephalopathy), widespread visceral lesions, and anal mucosal lesions[18]. Some authors state that they have seen patients who presented first or exclusively with signs and symptoms referable to extracutaneous sites such as the liver, lymph nodes, and bone[1].

In 1993, Haught WH, and collaborators et al. described of a patient with nights weats, fever, abdominal pain, pleural effusions, and asymmetric peripheral lymphadenopathy[10]. The patient underwent a Computed Tomography (CT scan) of the chest and abdomen that revealed an extensive mediatinal, retroperitoneal, mesentric, and right inguinal adenopathy. The inguinal lymph node parenchyma, microscopically, was replaced largely by a vascular proliferation that consisted of various-sized blood vessels, interstitial connective tissue and occasionally spindle-shaped cells lying between the blood vessels. These vascular changes permitted to the distinguish this lymphadenopathy from others and directed the authors towards the use of the Warthin-Starry stain in the lymph nodes tissues and the use of an electron microscope, resulting in a positive stain in bacillary form that confirmed a diagnosis of massive visceral lymphadenopathy. The patient was placed in a regimen of 500 mg. of erythromycin four times a day for a period of one week. By the second week, the lymphadenopathy resolved completely.

Several patients have come to medical attention for peripheral lymph node enlargement, either painful or painless. Some image studies performed in some patients have shown abdominal or retroperitoneal lymphadenopathy. The diagnosis of Ba is then made by excisional lymph node biopsy[1]. The diagnosis is also possible through fine needle aspiration biopsy, where the specimen is later stained with Warthin-Starry stain.

Bone pain might be found in several patients with involvement of the bone by bacillary angiomatosis, but in HIV-patients this is rare. In an AIDS patient, the presence of a lytic bone lesion should raise a strong suspicion of a Rochalimaea infection as its cause[18]. The diagnosis of such osteolytic lesions are possible through conventional radiographs or if in doubt through a bone scan[11].

The most common site for extracutaneous lesions in BA are the liver and the spleen. The clinical hallmark of hepatic disease is hepatomegaly, sometimes massive, developing over a period of weeks to months[12]. Another hepatic disease closely related to bacillary angiomatosis is Peliosis hepatitis. Peliosis hepatitis is a rare condition characterized by cystic,

blood-filled spaces in the hepatic parenchyma. Recent reports have identified this disease in HIV-infected patients that were previously diagnosed with bacillary angiomatosis[12]. It usually presents with gastrointestinal symptoms, such as; nausea, vomiting, diarrhea, or abdominal distention. Other symptoms also associated with peliosis hepatitis are fever, chills, and hepatosplenomegaly. It is believed that HIV-associated bacillary peliosis hepatitis is an unusual, treatable opportunistic infection, probably caused by the same bacillus that is responsible for bacillary angiomatosis[1,12].

C. Pathological Findings

The main pathological finding of bacillary angiomatosis is a vascular host response. The response pattern is dependent upon which organ it affects. For example, in the liver and spleen it presents with baci-llary peliosis hepatitis. An angiomatous pattern like that seen in the skin is observed on the bone and the lymph nodes.

Histological pathology found in the skin consists typically of a lobular proliferation of small circumferential blood vessels located in the dermis or subcutis. The endothelial cell are plump and protuberant into the lumen with abundant cytoplasm and numerous, closely adherent, cuboidal cells with vesicular nuclei. With this description the condition leads to the term "epithelioid hemangioma" or histiocytoid hemangiomas as was called in the past. This condition consists of a variety of closely-related but different vascular neoplasms found in the skin, soft tissue, and internal organs[9]. The cuboidal epithelioid cells express markers for both endothelial cells and histiocytes (Factor VIII antigen and a_1-anti-chymotrypsin, respectively), leading investigators to believe that these cells have immunochemical features[9].

The pathological features found on the bone and lymph node also show a lobular proliferation of small circumferential blood vessels, some presenting with abundant endothelial cells. Neutrophils may be sparse and its lobular morphology might not be bisible, especially in small grangments from some bone biopsies. The lesio is similar to Kaposi's sarcoma or active granulation, but Kaposi's sarcoma contain fascicles of spidle cells with cleft-like spaces containing extravasated erythrocytes and hemosiderin rather than the well-formed vessels present in bacillary angiomatosis[13].

The diagnostic histologic pathology present in bacillary angiomatosis of the skin, lymph nodes, bone, and liver and spleen as seen in bacillary peliosis, represents the invasion of the causative bacteria[19,21]. The bacteria can be observed via conventional microscopy of hematoxylin-eosin stained sections as a granular violaceous material. They are present interstitially within the vascular proliferation in the skin, lymph nodes, and bones and are present in the myxoid connective tissue seen near peliotic spaces in the liver and spleen. The bacteria can be stained using Warthin-Starry stain or Brown-Hopp's tissue gram stain in which they conglomerate into clumps and tangles[13]. As confirmation of stained material, electron microscopy helps clearly identify the gram-negative bacillus organism in order to pin-point the diagnosis and treat properly and promptly[5].

DIAGNOSIS

The diagnosis of bacillary angiomatosis can be made unequivocally by a histologic staining section and the use of electron microscopy in the examination of the involved tissue. A proliferation of blood vessels accompanied by inflammatory cells and the characteristics interstitial granular material are usually found on staining sections. Results of a Warthin-Starry stain or electron microscopy demonstrate the causative bacteria being Rochalimaea henselae.

Rochalimaea henselae can be isolated from blood if lysis-centrifugation blood culture are used, but R. henselae has also been isolated with Bactec blood-culture system[8] and isolated after direct plating of tissue from lymph nodes and spleen. R. hensalae has, of course, been isolated from skin lesions.

The use of gas-liquid chromatography is a reliable method to confirm the organism once it has grown in culture[14]. Commercially available techniques have been designed for identification of fastidious organisms like the BA causative agent (e.iMicroscan Rapid Anaerobe Panel from Baxter). Serologic methods such as indirect immunofluorescent-antibody testing are gaining popularity as disgnostic method and also used for epide,iologic studies[15].

Diagnosis of BA and extracutaneous disease is most often made by an assessment of the clinical features coupled with biopsies of lesions with characteristic histopathological findings in tissue sections. Blood cultures should be obtained and incubated for a prolonged period of time.

Bacillary angiomatosis once it is diagnosed treatment should be begun immediately, but to reach this diagnosis there might be some confusion since many lesions have clinical or histologic similarities.

The histologic differential diagnosis of bacillary angiomatosis includes most of the histologic features that represent BA compared with disease that have a comparative similarity, such as Kaposi's sarcoma, Angiosarcoma, lobular capillary hemangioma or pyogenic granuloma, and Epithelioid hemangioma.

From the differential diagnosis based almost exclusively on histological characteristics it can be anticipated that Epithelioid hemangioma and Lobular capillary hemangioma have the closest hematologic relationship to bacillary angiomatosis. Kaposi's sarcoma and angiosarcoma are clearly differentiated from BA, holding only clinical similarities (AIDS occurrence and skin manifestations) that don't hold up once compared with the treatment response.

TREATMENT

For the treatment of bacillary angiomatosis, erythromycin at a dosage of 500 mg four times per day for approximately the period of two weeks to two months, has been selected as its primary drug based on this excellent clinical response to virtually any clinical presentation of bacillary angiomatosis[10]. The use of doxycycline has also had an excellent response for those patients that cannot tolerate the use of erythromycin[4]. The use of ß-lactam antibiotics do not have a good response. Though a number of antibiotics have been tried, a limited number of them have successfully acted on the offending bacillus; such as isoniazid, rifampin, and trimethoprim-sulfamethoxazole[10]. The recommendation of most authors on the selection of antibiotics for bacillary angiomatosis remains the use of erythromycin or doxycycline if intolerance to erythromycin is present[7].

All patients, once diagnosed with bacillary angiomatosis, should be treated promptly because of the potential morbidity and mortality associated with untreated progressive disease[17]. In addition, a cosmetic benefit is gained, since the skin lesions associated with BA tend to be disfiguring, but they usually resolve with erythromycin. The optimal duration of therapy is unknown, and it depends primarily on the immune status the patient (Table III). Once the therapy is initiated, a response similar to Jarisch-Herxheimer reaction might be expected. Jarisch-Herxheimer reaction is characterized by fever, myalgias, and constitutional symptoms.

Since it is difficult to predict which patient will relapse, one should use clinical judgement to individualize therapy according to the clinical presentation, the severity of the disease, the level of immunosuppression, and the extent and rapidity of the clinical response to treatment[7].

TABLE III.
Duration of Therapy for Patients with Bacillary Angiomatosis Depending on their Immune Status

Immune Status	Duration of Therapy
Immune Status	Duration of Therapy
Immunocompetent	2 to 4 weeks depending on clinical; if relapse occurs, prolongation of treatment is recommended
Immunosuppressed, HIV-	Approximately 4 weeks or until immunosuppression has resolved; therapy may last months if relapses occur
HIV+	Weeks to months; may be extended as life-treatment maintenance if relapses occur

SUMMARY

Bacillary angiomatosis is a relatively new disease entirely caused by Rochimalea. Its principal manifestations are in the skin, but septemic in manifestation can occurs with involvement of the lymph nodes, liver, spleen tissue diagnosis lead to effective treatment with either erythromycin or doxycycline. Treatment for 2-8 weeks level to elimination of the lesions and cosmetic improvement. Awareness of the entitle will lead recognition and prevent management.

Resumen: Hoy día se conoce que angiomatosis bacilar es causada por un organismo de las Richettsiae; Rochalimaea henselae. Este agente causal ha sido comparado con otros microorganismos y/o condiciones que aparentan tener una similitud al surgir en ambientes similares, pero se ha documentado claras diferencias entre ellos; e.i. Enfermedad del rasguño del gato (Afipia felis), Bartonella bacilliformis, otras especies de las Richettsiae, Sarcoma de Kaposi, Hemangioma capilar lobular, Angiosarcoma y Hemangioma epitelioide.

Clínicamente las lesiones cutáneas causadas por BA tienden a surgir como lesión solitaria o como lesiones múltiples (más de mil) Las lesiones cutáneas aparecen como pápulas redondas de color rojo intenso, nódulos subcutáneos, o como placas celulíticas. Cuando las lesiones se biopsian, ellas tienden a blanquear, sangrar, y causar mucho dolor. El paciente puede presentar con signos y síntomas de escalofríos, dolor de cabeza, malestar general, fiebre y anorexia asociado o no a la pérdida de peso. Las lesiones extracutáneas encontradas en BA tienden a afectar múltiples órganos, desde lesiones orales, lesiones en la mucosa anal, hasta lesiones viscerales esparcidas. La localización preferida en donde se manifiesta BA son en el hígado, bazo, nódulos linfáticos y hueso.

Para diagnosticar BA, el médico debe preparar un diagnóstico diferencial basado primordialmente en las características histopatológicas y clínicas para poder diferenciar el organismo de otras enfermedades que comúnmente se encuentran en pacientes infectados por VIH. Para confirmar los resultados el uso de un microscopio electrónico puede identificar el bacilo y precisar el diagnóstico.

Las lesiones presentadas por BA responden al tratamiento con eritromicina 500 mg cuatro veces al día por una duración de 2 semanas hasta 2 meses. En caso de alguna intolerancia a la eritromicina, el medicamento de segunda línea es doxicilina. Si ocurren

recaídas, entonces el tratamiento del antibiótico debe de prolongarse. En pacientes de SIDA la duración del tratamiento puede llegar a ser por vida.

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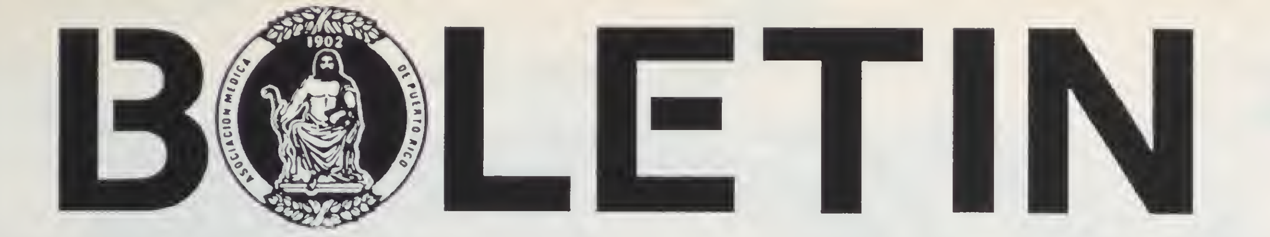
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Artículos referentes a estudios de casos aislados deben organizarse en la siguiente forma: Introducción, Materiales y Métodos si es aplicable, Observaciones del Caso, Discusión, Resumen (en español e inglés), Reconocimientos y Referencias.

Nomenclatura

Deben usarse los nombres genéricos de los medicamentos. Podrán usarse también los nombres comerciales, entre paréntesis, si así se desea. Se usará con preferencia el sistema métrico de pesos y medidas.

Tablas

Las tablas deben aparecer en hojas separadas. Estas deben incluir el título, y el número de la tabla debe estar en romano. Los símbolos de unidades deben limitarse al encabezamiento de las columnas. Se deben omitir líneas verticales en la tabla. Se usará en las tablas el mismo idioma en el cual está escrito el artículo. Deben limitarse las tablas a sólo aquellas que contribuyan al mejor entendimiento del manuscrito.

Ilustraciones

Las fotografías y microfotografías se someterán como copias en papel de lustre, sin montar o en transparencias. En el reverso de la figura debe aparecer el número de la figura (arábigo) y el autor. Debe indicarse la parte superior de la ilustración.

Resumen

Un abstracto no mayor de 150 palabras debe acompañar los manuscritos. Debe incluir los puntos principales que ilustren la substancia del artículo y la exposición del problema, métodos, resultados y conclusiones.

Referencias

Las referencias deben ser numeradas sucesivamente de acuerdo a su aparición en el texto. Los números deben aparecer en paréntesis al nivel de la línea u oración. Al final de cada artículo las referencias deben aparecer en el orden numérico en que se citan en el texto. Deben utilizarse solamente las abreviaturas para títulos de revistas científicas según indicadas en el "Cumulative Index Medicus" que publica la Asociación Médica Americana. Las referencias deben seguir el patrón que se describe a continuación.

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Cartas al Editor

Se publicarán a discreción de la Junta Editora. Deben estar escritas en maquinilla a doble espacio, no deben ser mayores de 500 palabras, ni incluir más de cinco referencias.

**Estas "Instrucciones para los Autores" son de acuerdo a las normas establecidas por el Comité Internacional de Editores de Revistas Médicas en sus]Requisitos Uniformes para Manuscritos Sometidos a Revistas Bio-Médicas".*

Instructions to Authors*

The Bulletin will accept for publication contributions relating to the various areas of medicine, surgery and allied medical sciences. Special articles and correspondence on subjects of general interest to physicians will also be accepted. All material is accepted with the understanding that is to be published solely in this journal.

All authors are urged to seek clarity, brevity, and pertinence in the manuscripts regardless of subject or format.

In order to facilitate review of the article by the Editorial Board and the work of the printer, the authors must conform with the following instructions:

Manuscripts

The entire manuscript, including legends and references should be typewritten double spaced in TRIPLICATE with ample margins. A separate title page should include the following: title, authors and their degrees (e.g. MD, FACP), city where the work was done, hospital or academic instituríons, acknowledgement of financial sponsors, and if the paper has been at a meeting the place and date should be given.

The manuscripts should start with a brief introductory paragraph or paragraphs which should state its purpose. The main sections (for example, Materials and Methods) should be identified by heading in capital letters.

Articles reporting the results of clinical studies or laboratory investigation should be organized under the following headings: Introduction, Material and Methods, Results if indicated, Discussion, Summary in English and Spanish, Acknowledgments if any, and References.

Nomenclature

Generic names of drugs should be used; trade names may also be given in parenthesis, if desired. metric units of measurement should be used preferentially.

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These should be typed on separate sheets with the title and table number (Roman) centered. Symbol for units should be confined to the column headings. Vertical lines should be omitted. The language used in the tables must be the same as that of the article. Include only those tables which will enhance the understanding of the article. They should supplement, not duplicate the text.

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Photographs aand photomicrographs shoul be submitted as glossy prints, (unmounted) or slides. They should be labeled in the back with the name of the aaauthors and figure number (Arabic) and the top should be indicated. legend to the figures should be typed on a separate sheet.

Summary

An abstract not longer than 150 words should accompany all articles. it must include the main points that present the core of the article and the exposition of the problem, method, results, and conclusions.

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Letters to the Editor

Will be published at the discretion of the Editorial Board. They should be typewritten double-spaced, should not exceed 500 words nor more than five references.

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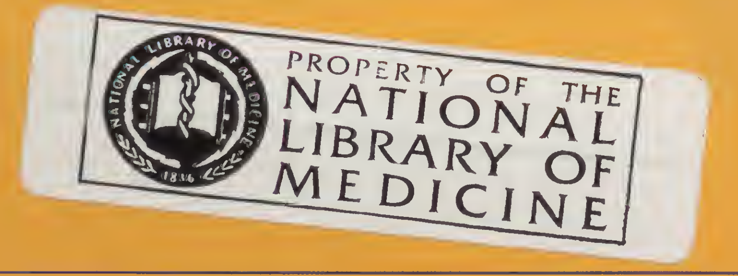
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Contenido



FUNDADO 1903



Editorial:

El ser médico

Rosa Román Carlo, M.D.

En el año 2000 entramos a una nueva era, un nuevo siglo y nuevo milenio. En este tránsito a ese milenio pensamos que el futuro se convierte en presente y toda la tecnología imaginable estará a nuestro servicio. La realidad es que la tecnología ya está en nuestro presente. Con ella vivimos. Los que nacimos en los años sesenta nos criamos con el proceso donde se desarrolló el enfoque tecnológico de esa tecnología. Los niños de hoy piensan que esta tecnología siempre estuvo aquí, pero no hay nada más lejos de la realidad.

El ser Médico hoy, a finales del siglo 20, no se parece en nada a los médicos del principio de este siglo. Estos todavía conservaban la metodología de la práctica del siglo anterior cuando las infecciones eran el mayor problema. Se descubre que la producción de bacterias en los productos descompuestos no son por generación espontánea, sino por multiplicación de bacterias. Las grandes epidemias de los últimos siglos comienzan a investigarse y a estudiarse a fondo. Es el siglo 19 el que da base al inicio de la medicina moderna. Se establecen los centros educativos como los conocemos hoy. Pero a mediados del siglo pasado se inician las medidas de antisepsia. Ignaz Semmlweis fue uno de los primeros en probar estadísticamente la naturaleza contagiosa de la infección post partum. Lister no tuvo que probar estadísticamente nada, pues tenía una gran reputación y sus palabras fueron bien recibidas cuando habló del "polvo infeccioso". El utilizó 11 casos a los que le roció ácido carbólico y disminuyó el crecimiento de bacterias. Pasteur esterilizaba los instrumentos con calor. El, junto con Koch revolucionan la bacteriología y establecen principios básicos que posteriormente nos traerán nuestra actual tecnología. Al no existir antibióticos, prevenir era la única alternativa. Como es conocimiento, la literatura y la diseminación de la información era poca y limitada, ser médico a principios de este siglo, pudiera pensarse que era relativamente fácil, por el caudal, también limitado disponible. No obstante, no es fácil ver morir a alguien sin saber qué ocurre a qué se puede hacer.

No es hasta los años 20 que tomándose los principios de Koch, Pasteur y otros, que Alexander Flemming introdujo la penicilina, a pesar que la isoniazida, las sulfas y otros antagonistas de bacterias ya existían. La penicilina revolucionó tanto el tratamiento que ha mediados de siglo se pensó, ingenuamente que el capítulo de las infecciones, era uno cerrado. En los años siguientes, ser médico se consideraba un privilegio que solo se guardaba para las personas inteligentes y prominentes.

En los años posteriores a la segunda guerra mundial y la aparición de la guerra en el oriente, muchos se dedican a estudiar para evadir marchar en el ejército. En esta época se comienza a difundir la educación médica y es más fácil entrar en una Escuela de Medicina. Muchos jóvenes que participaron en Vietnam regresan con dinero y becas para estudiar algo provechoso. La medicina en esa época infundía respeto y ser médico significaba ser alguien con mucha importancia en la comunidad. Son los años de oro donde proliferan los especialistas y la alta tecnología de finales de los 70.

Durante esos años se erradican enfermedades, comienza a disminuir la incidencia de tuberculosis y creemos que se va a encontrar la cura del cáncer pronto. Surgen los supermédicos de la caja mágica, la televisión. Las personas adquieren una falsa imagen de los límites de la medicina. Sin embargo, ser médico a mediados de los 80 se convierte en una verdadera odisea. Hay áreas donde no hay suficientes médicos y se inician los programas de medicina de familia donde se trata de rescatar el médico primario con calor humano y menos tecnología.

A finales de los 80 aparece un nuevo enemigo, el SIDA, aquellos ingenuos que pensaron que la medicina había cerrado su capítulo de enfermedades infecciosas se encuentran con esta realidad. Una nueva epidemia se cierne sobre nosotros. Pero no pensemos que es solo el SIDA. A finales de siglo luchamos contra la tuberculosis resistente, un nuevo estreptococo resistente a la penicilina y nuevos virus como el Ebola y el Hanta.

Lo triste de todo esto es que estamos donde empezamos. La antisepsia y el evitar el contacto es el inicio de la prevención.

Si Lister y Pasteur estuvieran aquí se frustrarían, pues solo medio siglo después estamos sin muchas alternativas en antibioticoterapia y sí muchos organismos de los cuales, sólo creemos conocer un poco.

Ser médico hoy es luchar con el estrés que trae la tecnología, toda la sociología tecnológica que derrumba la base social, que es la familia. Encontrar soluciones

sencillas a problemas graves. Ser un excelente administrador de nuestra asignación monetaria y jamás "estar pendientes del dinero". Nuestro Honorable Gobernador Señor Pedro Rosselló dice: "Los médicos de este país no están pendientes mas que de dinero". Ser médico hoy significa 15 años de entrenamiento, esto cuesta dinero y el que estudió con préstamos tiene que pagarlos. Cualquier profesional cobra hoy en relación a sus estudios, nosotros como buenos samaritanos cobramos no en razón de nuestra educación, sino lo que nos quieran pagar los planes médicos. Ser médico hoy significa cobrar por debajo de sus costos de educación, satisfacer las necesidades legales de nuestros abogados y letrados. Sacrificar a nuestros pacientes en aras de la economía y de la buena administración; y sufrir el desprecio de la comunidad. Pues todo el mundo piensa que el poco dinero que sobra es robado. Pero nosotros los médicos que nos levantamos hoy, queremos recobrar el respeto no sólo del Señor Gobernador sino de toda la ciudadanía. Nosotros no estudiamos por dinero, sólo por nuestros pacientes. Nos mantenemos al día por ellos. Ellos son nuestra razón de ser. Por ellos defendemos el dinero que los políticos derrochan. La salud de nuestros pacientes es nuestra meta. Mejorar su calidad de vida es nuestro compromiso.

Los nuevos cambios en la medicina hoy, no son en la tecnología. La tecnología ha pasado a segundo nivel, será a mediados del próximo siglo que las bacterias resistentes, los superbacilos y los nuevos virus conocerán sus enemigos. Los médicos de hoy tendremos como meta recobrar el alma de nuestra profesión. Recuperar el lustre y la posición en nuestra sociedad. Limpiar nuestro buen nombre, sacar a los que nos desacreditan y comenzar de nuevo a brillar en una nueva época de oro.

Artículos Originales:

Response of sporotrichosis granuloma to local application of iodine

Gerhart Ramírez Schon, M.D.
and Amaryllis Torres Velázquez, M.D.

Summary: Chronic sporotrichosis granuloma of the skin is usually the result of non compliance with oral iodine therapy for whatever reason. Excision of the lesion, local iodine application with povidone iodide for six days and delayed primary skin grafting is presented as a quick, effective and acceptable alternative, if oral treatment is not tolerated. The ineffectiveness of local excision and grafting without adequate iodine therapy is demonstrated by this case.

Introduction

Most patients with cutaneous sprotrichosis respond well to oral iodine therapy and need no further treatment. An infrequent sprotrichosis granuloma at the portal of entry may prove to be an indolent problem, difficult to solve. The establishment of a granuloma is usually the result of discontinuing iodine therapy prematurely due to intolerance. The drug of choise in the treatment of Sporothrix shenkii infection is itraconazole (1), but, to be effective, courses of treatment have to be continued for 3 to 18 months, and are considerably more expensive than Lugol's solution. The management of one patient with this problem is reported to advance the hypothesis that surgery and local iodine therapy is an innocuous alternative to systemic oral treatment for the persistent granuloma, to be used when the latter mode of therapy is not tolerated.

Case Report

A 60 year old man received a prick with a citron thorn to the skin of the dorsal surface of his right second metacarpo-phalangeal joint. The patient developed nodular inflammatory skin lesions at the site of the inoculation and along its lymphatic drainage with enlarged and tender epitrochlear and axillary lymph nodes. He was treated with the oral administration of a saturated solution of potassium iodide (Lugol's Solution) for six weeks, gradually increasing the dose to 40 drops (2.7 gm.) three times a day. The patient abandoned therapy without resolution of all his lesions because of headache, indigestion, nausea, occasional vomiting, foul taste, lacrimation, coryza and sneezing due to the iodide. All lymphatic and cutaneous lesions disappeared except the primary inoculation site in the dorsum of his hand which persisted as an exophytic growth surrounding a small ulcer.

Four months after the original injury he sought treatment again, and a (KOH) smear and culture confirmed the diagnosis of Sporothrix shenkii infection. The patient was given a second course of therapy with oral potassium iodide in the same dosage. The lesion regress partially under therapy, but the patient developed all the side effects experienced previously and stopped taking medication after two months. The lesion continued an indolent, painful and chronic course and he returned for treatment 21 months after the initial injury.

On that occasion the 2 x 3 cm. granulomatous lesion was excised from the dorsum of his hand and the area covered with a split thickness skin graft taken from the skin of the thenar eminence of his right hand. Simultaneously a third course of potassium iodide was administered in doses comparable to those given before, being tolerated this time for only 13 days. Pathological examination of the specimen did not show the Sporothrix, as is usually the case, but it did aid in the exclusion of other possible conditions.

In spite of a complete take of the graft, the patient returned three months postoperatively with a recurrent exophytic lesion at the site of the original granuloma. On this occasion the lesion was re-excised and the area left without skin covering. The hand was soaked for 20 minutes, three times a day in a standard 10% Providone Iodine Solution, for six days. A delayed primary free skin graft, taken from the hypothenar eminence was applied to the area one week after excision of the lesion. The patient healed well and has had no recurrence of the lesion for over thirty six months, remaining asymptomatic and with excellent functional results.

Department of Surgery, Ponce Regional Hospital. Mailing address: Gerhart Ramírez Schon, M.D., Department of Surgery, Ponce Regional Hospital, P.O. Box 391, Ponce, P.R. 00733.

Discussion

Almost all patients with cutaneous and lymphatic sporotrichosis, who are in a reasonable state of immunologic competence, will respond to oral treatment of iodide solutions if therapy is continued for sufficient time after the lesions disappear (2). The side effects of this therapy are mild and usually well tolerated. However, chronic nausea, occasional vomiting, foul taste and coryza can become intolerable in many patients if symptoms persists for several months. It is in these instances that some patients do not comply with therapy. Itraconazole therapy is an alternative, but it is more costly, has to be carried out for 3 to 18 monts and one out of every six patients do not respond (1).

In our case it is evident that excision of the lesion alone will not be effective in resolving the problem in many instances. Upon evaluating this premise we should remember that spontaneous regression of Sporothrix lesions has been reported (3). In some cases regression could be due to the fortuitous application of heat to the lesion by the patient (4). These occurrences are probably more frequent than suspected, making it difficult even to define the true incidence of the disease (2). Upon being confronted by a condition of such erratic nature, where host-parasite interaction is of obvious importance, it is difficult to make categorical statements concerning the most appropriate course of therapy in all instances.

Since iodine therapy is usually effective in the treatment of sporotrichosis, excision of the lesion establishes the environment favorable for the local application of iodine without the underisable systemic side effects. The iodophor, providone iodine, was selected as the therapeutic agent because it consists of a carrier molecule for iodine, polyvinyl pyrrolidone, acting as a sustained release reservoir of iodine that produces minimal wound damage and high local iodine concentration (5). The length of time from excision to grafting was selected to conform to the definition of delayed primary wound healing, circumventing the possibility of future complications due to scarring, should there be a longer delay.

Resumen: El granuloma crónico cutáneo de sporotricosis ocurre cuando el paciente no sigue la terapia con iodo por vía oral por la razón que sea. Excisión de la lesión con aplicación local de iodo por seis días y cubierta posterior del defecto con un injerto libre de piel se presenta como una alternativa efectiva, rápida y aceptable, cuando se tolera el tratamiento oral. Con este paciente se demuestra la inefectividad de la excisión e injerto de piel sin tratamiento local con iodo.

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Articulos Originales:

In vitro exposure of murine macrophages to ultraviolet light induces apoptosis

Angel López-Candales, M.D., Michael J. Scott, M.D., and Samuel A. Wickline, M.D.

Summary: Ultraviolet light is a known exogenous stimuli with the ability to activate cell death by apoptosis. This study was done to examine the biologic effects of different energy levels of short wavelength UV light on cultured mouse macrophages. Cell proliferation, DNA content, and cellular ultrastructural architecture analysis demonstrated that ultraviolet light induces apoptosis in murine macrophages in culture. Exposure to 0.12 J/cm² evokes progressive cell demise with the classical features associated with apoptosis, whereas exposure to 5.0 J/cm² results in extensive DNA degradation and crosslinking of cellular proteins. These two phenotypes are qualitatively described.

Key Words: Apoptosis, cell culture, cell death, macrophages, ultraviolet light.

Introduction

Apoptosis is a cell death pathway initiated by exposure to a wide variety of internal and external stimuli (1). This gene-directed process is critical for embryonic development, cellular immunology, protection against mutagenesis, and carcinogenesis (2,3). In contrast to necrosis, apoptosis is characterized by classic morphological features such as extensive vesicularization of the cytoplasm, fragmentation of the nuclear architecture, early DNA degradation, and early preservation of the cytoplasmic membrane (4).

Much of the basic research of apoptosis has focused on thymocytes, keratinocytes, and lymphocyte-derived cell lines (5). However, its potential role in macrophages known to regulate complex interactions such as phagocytic scavenger, immunological activation, lipoprotein catabolism, generation of reactive oxygen species, synthesis of hydrolytic enzymes, biologically active lipids and chemoattractant molecules (6) has not been explored. In this study, we analyze the biological effects of ultraviolet light (UV) light, known to induce apoptosis (2), on cultured murine macrophages.

The rationale of using UV light as an external source to induce apoptosis in macrophages in culture is to explore the potential use of this energy source as a tool to control the triggering stimuli caused by activated macrophages in atherosclerotic lesions (7). In this study, we describe for the first time induction of classical apoptosis on murine macrophages in culture after brief exposure to very low energy of UV light (0.12 J/cm²). Furthermore, exposure to higher energy levels (5.0 J/cm²) resulted in a distinct pattern of apoptosis cell death. These two patterns are qualitatively described.

Materials and Mothods

Cell culture and UV irradiation protocol: Mouse macrophages (TIB-186) were obtained from ATCC (Rockville, MD) and maintained through multiple passages in our laboratory with RPMI 1640 medium, and 10% fetal bovine serum, bovine serum plus penicillin and streptomycin. Macrophages were incubated at 37°C in a humidified atmosphere of 5% CO_2/95% air with media changes every 2 to 3 days. Cells were then passed at confluency (approximately every 5 days) with trypsin-EDTA (0.05% trypsin, 0.02% EDTA).

After reaching the desired confluency for each experiment, a minimal amount of media was left in place to cover the cell layer. Irradiation was performed at 22°C on monolayer cultures with culture plate lids removed, using a light source of four T8 15-W bulbs. Sham (control) cells were placed in the field of irradiation with opaque covers for a length of time equivalent to that of the experimental group. UV light was administered at a wavelength of 254 nm. A constant power supply was used with an internal sensor

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mechanism to deliver a selected level of energy. No heat was generated in cell sulture medium during the irradiation process.

Cell viability: Plasma membrane function and structural integrity was assessed by trypan blue exclusion according to the method of Del Bino (8). Briefly, cell viability was measured by the ability of cells to exclude trypan blue. After a 10 to 15 minute incubation with a 1:2 dilution of trypan blue stain, cells were rinsed in PBS. Cell morphology and trypan blue stain exclusion were elevated under an inverted ocular microscope (Nikon-Diaphot 300).

***In vivo* radiolabeling of proteins:** Sham and UV-treated macrophages were incubated in methionine-free media for one hour prior, to be pulse-labeled with 100 mCi per well of {^{35}}S-methionine (1,000 mCi/mmol; Amersham, Arlington Heights, IL) for two hours. The cells were then washed with phosphate-buffered solution (PBS) and ruptured by three freezethawed cycles at -78°C (dry ice). The suspension was spun at 2000 X g at 4°C, the pellet resuspended in PBS with 0.1% Triton X-100 at 4°C overnight. The next day the samples were spum at 12,000 rpm for 20minutes, and the pellet was then solubilized with 0.1% SDS. Equal amounts of protein were loaded into a 10% polyacrylamide gradient gel under denaturing conditions (9). Proteins bands were then visualized with Coomassie Blue stain, and autoradiography was carried out using Kodak film.

Flow cytometry: Immediately after sham irradiation and exposure to UVC light, the cells were prepared for analysis in the flow cytometer using standard techniques. Briefly, cells were slowly mixed with 2.5 ml of cold 100% ethanol, fixed at 4°C for at least 30 min, centrifugated for 5 min at 400 g, washed with phosphate buffered solution (PBS), and resuspended in PBS with RNAse. The suspension was incubated at 37°C for 20 minutes and subsequently centrifuged for 5 min at 400 g and then labeled with propidium iodide, filtered and analyzed on a flow cytometer (Elite).

Electron microscopy: Cells were fixed with 2% glutaraldehyde, then treated sequentially with 1% osmium tetroxide, 30% wash buffer, 50% EtOH, 70% EtOH, 95% EtOH, 100% EtOH, and several changes of 100% polybed 812 resun. Samples were then cured at 45°C overnight, then at 60°C for 24 hrs. Then cut in 90 mm thin sections and placed on 200 mesh copper grids, stained with 4% uranyl acetate in 50% ethanol and then lead citrate. Samples were then visualized under a Philips 201 EM.

Determination of cellular structural stability: Macrophages were grown to 60% confluency on 12 well/plate dishes. Immediately after irradiation, the media was removed, the cells rinsed and then exposed directly to one of the following agents: 10 N HCL, hypotonic solution, or 0.1% Triton-X. The effects of these agents on cells morphology were observed by light microscopy at selected time intervals after treatment and compared to sham-treated cells.

Results

Effects of UV light on cellular viability: Figure 1 shows the percentage of macrophages attached to the culture plate as a function of time after exposure to either 0.12 J/cm^2 or 5.0 J/cm^2 as compared to sham macrophages. Normal growth was noted for the sham macrophages. however, macrophages exposed to 0.12 J(cm^2 showed a rapid increase in cell detachment with time; all cells were floating within 24 hours of UV exposure. In constrast, macrophages exposed to 5.0 J/cm^2 remained adherent to the culture plate for a minimum of 10 to 12 weeks of preliminary analysis. Representative light photomicrographs of the sham and UV-treated macrophages are shown in Figure 2.

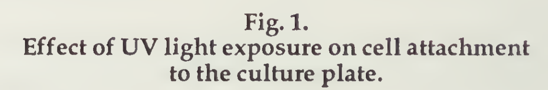
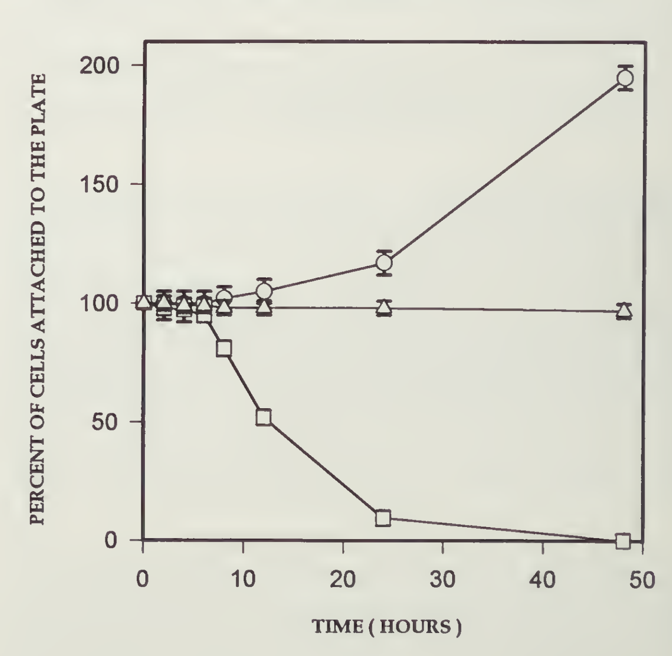
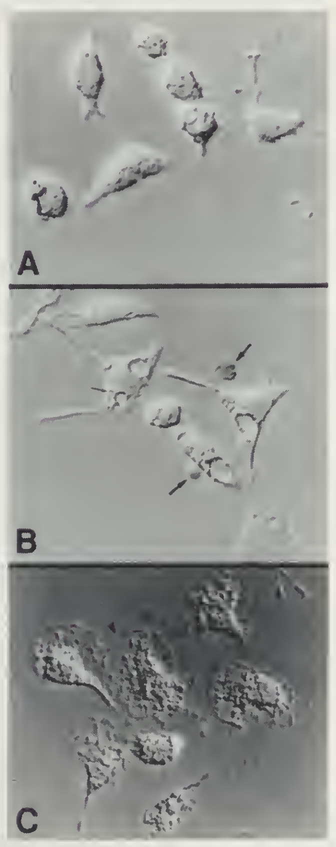


Fig. 1.
Effect of UV light exposure on cell attachment to the culture plate.



A known amount of cells (2 x 10^4) were seeded in 12 well/ plate dishes. Cells were allowed to adhere to the plate for at least 24 hours, then the cells were exposed to either sham or UV treatments (time = 0). Cell counts were then performed at selected time intervals. Cells in both the culture medium and those attached to the plate were counted at low power field using a hemocytometer. Cell attachment to the culture plate was expressed as a percentage as function of time after treatment. The increase in the percent of attached sham cells is the result of normal logarithmic growth. (Sham/control = 0; 0.12 J/cm^2 - exposed = Δ; 5.0 J/cm^2 - exposed = Δ).

Fig. 2.
Representative photomicrographs of murine macrophages *in vitro* after exposure to UV light.



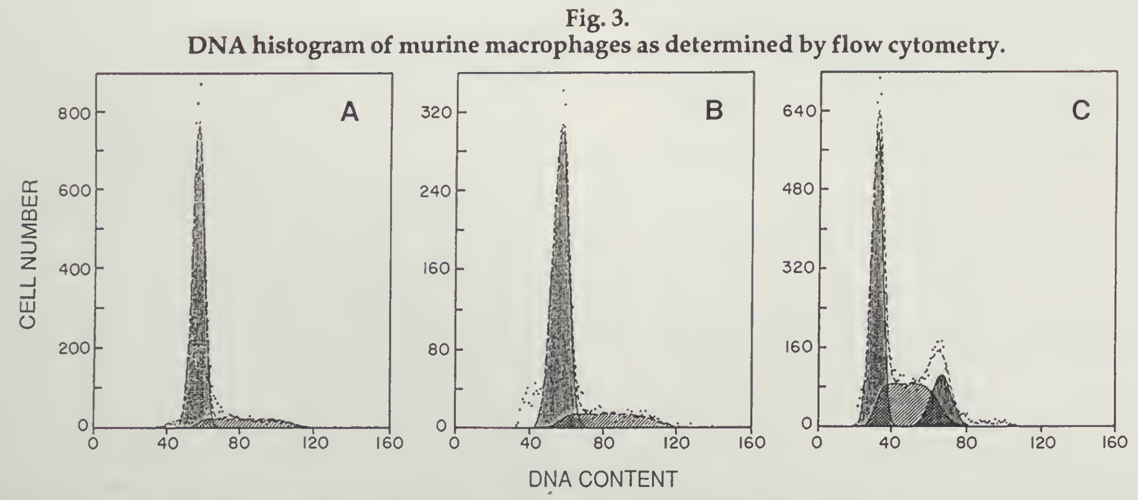
(A) Low magnification (20X) photomicrograph of sham-treated macrophages. (B) Higher magnification (40X) light photomicrograph of a macrophage (4 to 6 hours) after exposure to 0.12 J/cm². Note the cytolasmic vacuolization (thin arrow) and the trypan blue positive nuclei (thick arrows). (C) higher magnification (40X) of a macrophage after exposure to 5.0 J/cm². Note the cytoplasmic collapse demarcated by the arrowheads.

Characterization of cell death: To determine specific features of the cells exposed to UV light, patterns of DNA content and ultrastrucutral architecture were anlyzed. First, we used flow cytometry to calculate total cellular DNA content (10). A normal DNA histogram distribution was found on sham cells (figure 3A) and in macrophages adherent to the culture plate after exposure to 0.12 J/cm² (figure 3B). In contrast, macrophages floating in the culture medium (8 to 10 hours) after exposure to 0.12 J/cm² and macrophages immediately exposed to 5.0 J/cm² displayed a dramatic shift of the DNA content to values lower than 2N, suggestive of extensive DNA fragmentation consistent with apoptotic DNA histogram (figure 3C) (10).

Second, we used electron microscopy to define the ultrastructural changes upon exposure to UV light. Distinct nuclear and cytoplasmic changes were noted in the UV-treated cells as compared to sham macrophages (figure 4A). Cellular ultrastructure was mainly preserved on macrophages exposed to 0.12 J/cm². However, extensive loss of cytoplasmic integrity was evident in cells prior to detachment from the culture plate (figure 4B). Figure 4C and 4D shows macrophages immediately after exposure to 5.0 J/cm². These macrophages displayed typical features attributed to apoptosis, such as reduction in cytoplasmic and nucelar volume, extensive cytoplasmic vesicularization, abnormal endoplasmic reticulum and mitochondria, and condensation of nuclear chromatin immediately after UV light exposure.

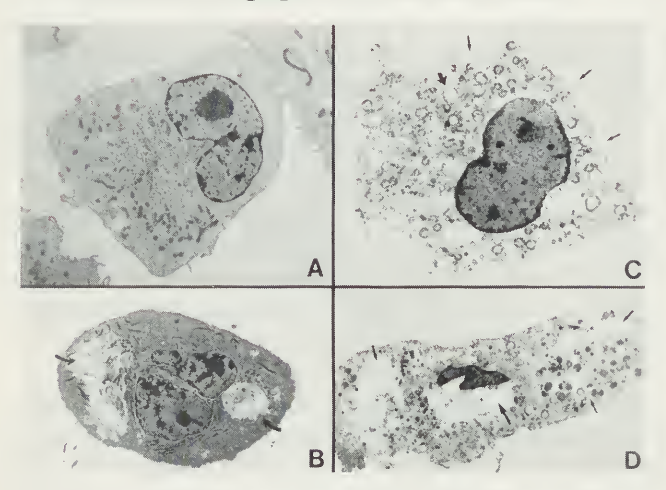
Analysis of the total cellular protein was also performed. As shown in figure 5A, both sham-treated and 0.12 J/cm² UV-treated macrophages demonstrated a full complement of cellular proteins. In constrast, macrophages exposed to 5.0 J/cm² showed extensive crosslinking of all proteins, these migrated as a singel

Fig. 3.
DNA histogram of murine macrophages as determined by flow cytometry.



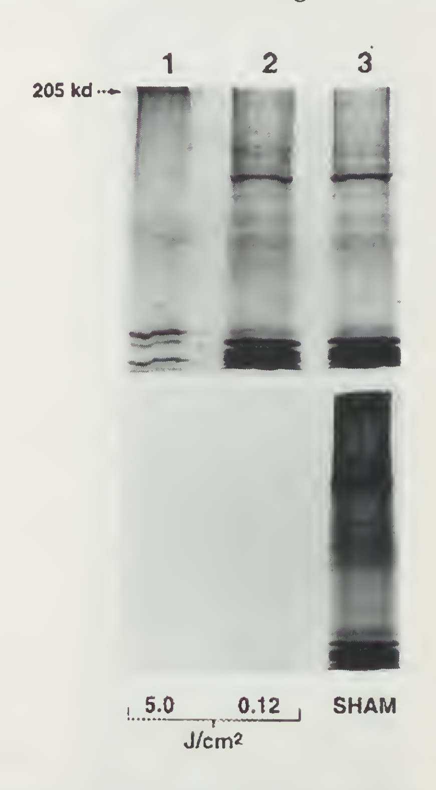
(A) Sham macrophages showing normal pattern distribution of $G_1/S/G_2M$, (B) macrophages adherent to the culture plate 4 hours after exposure to 0.12 J/cm² also displayed normal DNA distribution patterns, and (C) macrophages floating in the culture medium (8 to 10 hours) after exposure to 0.12 J/cm² and macrophages immediately exposed to 5.0 J/cm² displayed a dramatic shift of the DNA content to values lower than 2N, suggestive of extensive DNA fragmentation consistent with apoptosis.

Fig. 4.
Electron micrograph of mouse macrophages.



Nuclear and cytoplasmic ultrastructure in sham macrophages was compared to UV-treated macrophages at selected time intervals after exposure to 0.12 J/cm² and 5.0 J/cm². (A) Sham macrophages show preserved nuclear and cytoplasmic structure. (B) Representative macrophage adherent to the culture plate prior to cell demise 8 hours after exposure to 0.12 J/cm² of UV light. Note the extensive vesicularization of the cytoplasm and altered intra-cytoplasmic organelle morphology (curved arrow). (C) and (D) Macrophages immediately after exposure to 5.0 J/cm². Note in (C) the extensive loss of cell membrane (thin arrows) and vesicularization of cytoplasm (thick arrows) and (D) cytoplasm collapse (thin arrows) and extensive nuclear fragmentation (thick arrow). Magnification 7000 X.

Fig. 5.
Autoradiographs and Coomassie blue-stained gels of [^{35}]S-labeled proteins run in polyacrylamide gels form sham and UV light.



Protein bands isolated from cells pulsed with 100 mCi per well of [^{35}]S-methionine to assess active protein synthesis are visualized with Coomassie Blue stain (A), and autoradiography (B) Note that macrophages, four hours after exposure to 0.12 J/cm², showed an absent active protein synthetic capability. At thesame time the cell retained the total protein complement prior the irradiation. In contrast, macrophages exposed to 5.0 J/cm² showed extensive crosslinking of all proteins (205 kd) with no active synthetic capability.

high molecular weight band (205 kd). No active protein synthesis was demonstrated by the use of [^{35}] S-methionine labeling (figure 5B) on the UV treated cells.

Structural resistance: The structural resistance of the UV-treated cells was tested by exposure to noxious agents as shown in table I. Results demonstrated that these treatments induced rapid cell swelling and lysis in sham macrophages. However, UV-treated macrophages only exhibited rounding of the cytoplasm with preservation of adherence to the culture plate and maintenance of gross cellular architecture. This effect was more pronounced on the 5.0 J/cm² cells.

TREATMENT	SHAM	0.12J / cm2	5.0 J / cm2
10N HCl	5 sec. +/- 0.5	7 sec. +/- 0.8	5 min. +/- 0.8
HYPOTONICITY	30 sec. +/- 1.5	4 min. +/- 1.5	15 min. +/- 1.3
0.1% TRITON X-100	30 sec. +/- 0.9	2 min. +/- 0.6	12 min. +/- 1.1

Table I. Time to first appearance of cellular morphologic changes after exposure to noxious agents in macrophages treated with selected UV energy levels. Macrophages were treated with the following protocols: *(A) Sham; (B) 0.12 J/cm²; and (C) 5.0 J/cm². Immediately after irradiation, the media was removed, the cells rinsed and then exposed directly to the following agents: 10 N HCl, hypotonic solution, and 0.1% Triton X-100 (membrane detergent). Time course to the first evident morphological alterations was noted. Morphological changes noted in sham (control) macrophages comprised rapid cell swelling and lysis. In contrast, the UV-treated macrophages only exhibited rounding of the cytoplasm with preservation of adherence to the culture plate and maintenance of gross cellular architecture, even after prolonged exposure. These data represent an average of four determinations each on duplicate experiments.*

Discussion

In this study, we have described several novel findings. First, brief exposure of murine macrophages in culture to low energy levels of short wavelength UV light results in a dose dependent cell death response. Second, characterization of the alterations in both nuclear DNA content and cellular ultrastructure is consistent with two distinct patterns of apoptosis. Specifically, exposure to 0.12 J/cm^2 results in classic features of apoptosis with remarkable rapidity. In contrast, exposure to 5.0 J/cm^2 induces extensive DNA degradation and crosslinking of cellular proteins. Nevertheless, the residual cellular corpuscle, although metabolically inactive immediately after UV light exposure, appears to be structurally stabilized for months. Third, exposure to UV light confers some degree of structural resistance to noxious stimuli and is directly dependent on the total amount of UV exposure. This resistance appears to be facilitated by an extensive crosslinking of cellular proteins, especially at higher levels of energy exposure.

It is apparent from the present data that with exposure to 254 nm wavelength UV light, there is a direct correlation between total energy delivered and the expression of either typical or atypical apoptotic features that contrast to those of necrosis. Our results may appear to conflict with previous data on UV-induced apoptosis (2,3). However, caution must be used in comparing results among studies. Others have demonstrated antiproliferative effect of longwave UVA (320-400 nm) with the addition of photoactivators *in vitro* (11-15). We have demonstrated that low levels of short wavelength UV light in the absence of photoactivators induces two distinct apoptotic phenotypes that differ in the extent of DNA and protein damage. The latter might be the result of a wavelength that is closer to the absorption range of nucleic and amino acids. These might expalin its utility for crosslinking DNA to synthetic membranes for hybridization analysis (16).

Although the results are limited to an *in vitro* system on macrophages that behave similarly to vascular macrophages (17), it is tempting to speculate on the potential usefulness of these data. Particularly when macrophages are the prime culprits in unstable atherosclerotic lesions due to their properties to secrete cytokines and growth factors that stimulate vascular smooth muscle (VSMC) to proliferate and proteolytic enzymes to weaken the supportive matrix (6). In addition, preliminary data in our laboratory is consistent with a differential sensitivity of macrophages and VSMC *in vitro* for the induction of classical apoptosis upon exposure to short wavelength UV light (unpublished results). Furthermore, and most importantly, this differential sensitivity might prove pivotal to inhibit the stimulatory effect of macrophages on VSMC without compromising vascular integrity in an effort to stabilize lipid-laden "unstable" atherosclerotic lesions. The latter has been the aim of numerous therapeutic interventions. These approaches thus far have failed to achieve success due to the disadvantage of recurrent stenosis secondary to increased proliferation of VSMC into the vessel intima (18,19).

Although previous studies have used lonwave UV light to stimulate photoactive drugs to induce partial quiescence without cytolysis of VSMC (20,21), a precise characterization of the specific cellular responses to this therapy has not been performed. Our data supports those findings and suggests the role of apoptosis, as opposed to necrosis, as the crucial mechanism to limit cell proliferation after UV light exposure in macrophages. Therefore, UV light may represent an alternate form of therapy that contrasts with other interventions such as balloon angioplasty, atherectomy, and intravascular laser therapy which mainly result in cellular necrosis with the resultant activiation of inflammatory responses responsible for restenosis (22). Future research using *in vitro* UV light should clarify the role of apoptosis in stabilizing complex vascular lesions.

Resumen: En este estudio se describe por primera vez la inducción de apoptosis en macrófagos en cultivo después de una exposición breve a luz ultravioleta de onda corta. Dos tipos morfológicos de apoptosis se describen en estas células. Con la inducción de este tipo de muerte celular, que se caracteriza por la ausencia de una respuesta inflamatoria, proponemos limitar la respuesta vascular en placas ateroscleróticas que resulta en reoclusión de arterias coronarias.

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Diagnosis and Treatment of Extreme Lateral Lumbar Disc Herniation

Orlando De Jesús, M.D.

Summary: Extreme lateral lumbar disc herniation is located in the foramen and compresses the exiting root producing symptoms attributed to the upper nerve root of the involved disc and vertebral level. The diagnosis is best established by using magnetic resonance imaging which visualizes the foramen in an axial and sagittal plane. Surgical treatment may be varied, but a posterior midline approach with drilling of the pars interarticularis will easily expose the nerve root and the herniated disc in the foramen. Results are usually excellent, with resolution of radicular pain.

Introduction

Low back pain is the most common symptom for which patients seek medical attention. More than half of all adults will be disabled for at least a brief period of time by back pain during their lifetime. It is not a disease, but a debilitating and incapacitating symptom. It is the major cause of work related leave. In only a minority of the cases it is caused by herniation of a lumbar disc. Herniated lumbar disc are easily identified using computed tomographic (CT) scans, magnetic resonance imaging (MRI), and on occasions, myelogram. There is a special type of disc herniation called "extreme lateral", in which the herniated disc material is more lateral than the typical herniation usually obliterating the neural foramen, with subsequent compression of the nerve root. It is also called far lateral, intraforaminal, and extraforaminal. It is the purpose of this article to describe the clinical presentation, anatomy, imaging findings, and operative technique in extreme lateral disc herniations.

Illustrative Case

A 64 year old female patient was involved in a motor vehicle accident eight months before her evaluation. She was using a cane to walk. She complained of mild pain in her back with severe radiation to the right thigh on its anterolateral aspect. Neurological examination showed severe numbness on the L3 distribution of the right anterior thigh. The knee jerk reflex was absent. There was no weakness or atrophy of the quadriceps muscles. CT scan showed a fullness near the right L3-L4 foramen. MRI revealed an extreme lateral L3-L4 herniated disc at the foramen (Figs. 1,2). In view of no clinical improvement with bed rest and physiotherapy, surgery was recommended. A large disc fragment was removed after the parts interarticularis was drilled away. The patient made an excellent recovery with no further pain, although the numbness persisted.



Fig. 1. Parasagittal T1-weighted MRI showing obliteration of the foraminal fat (arrow) by a large extreme lateral disc herniation.

Two other patients were operated using the midline posterior interarticular approach. Both had L3-L4 extreme lateral disc herniations with pain in the anterior thigh and absent knee jerk reflex. Motor examination was normal. Recovery was excellent with relief of pain.

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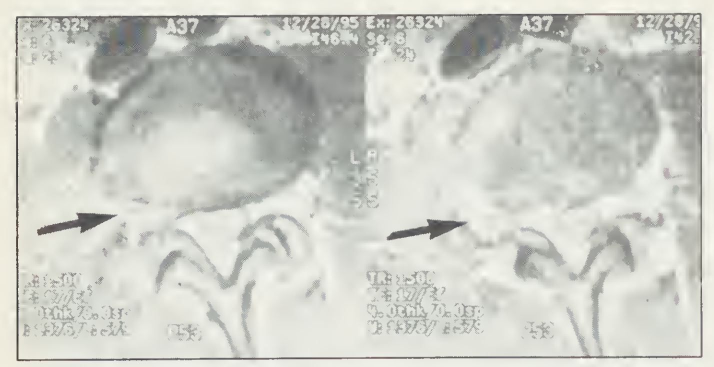


Fig. 2. Axial T1-weighted MRI of the L3-L4 level shows a large right-sided foraminal and extreme lateral disc herniation (arrow).

Discussion

Neuroanatomy

The neural foramen allows passage of the lumbar spinal nerve and is bounded cephalad and caudal by the pedicle of the vertebra above and below the intervertebral disc. Most of the anterior portion of the foramen is formed by the posterior margin of the cephalad vertebra and the intervertebral disc. The superior border of the foramen is the pedicle of the cephalad vertebra. The posterior portion of the foramen is covered by the pars interarticularis of the more cephalad vertebra. In the foramen, abundant fat, and veins are found around the spinal nerve. The radicular artery and vein are located more laterally.

Clinical syndrome

The diagnosis and management of these lesions are sometimes frustrating. The extreme lateral disc will produce a clinical syndrome different from the central or centrolateral disc herniation (intracanalicular). A central or centrolateral disc herniation will compress the nerve root as it courses down to the next foramen. Thus, a L3-L4 disc herniation will compress the L4 root as it courses down to exit at the foramen. The extreme lateral disc herniation typically migrates cephalad from the disc of origin and will compress the lumbar root cephalad to the affected disc space because of the anatomic proximity of the extreme lateral disc herniation to the more cephalad root. They produce cephalad nerve root syndromes and back pain is only secondary or absent. (1) An extreme lateral L3-L4 disc herniation will compress the L3 nerve root as it is exiting through the foramen. The extreme lateral disc herniation occurs with equal frequency in the L3-L4, L4-L5, and L5-S1 levels. Central or centrolateral disc herniations occur commonly in the L4-L5 and L5-S1 level, but rare in the L3-L4 level. If a patient presents with symptoms of L3 nerve root compression with numbness and pain of the antero-lateral thigh down to the knee, with a decreased or absent knee jerk reflex, most probably it is caused by an extreme lateral disc herniation since at the L3-L4 level they are by far more frequent than intracanalicular disc herniations. Quadriceps muscle will be weak or atrophic in a large number of patients with L3-L4 extreme lateral disc herniations. Pain may be severe, possibly due to the compression of the dorsal root ganglion. (2,3) The incience of extreme lateral disc herniation is approximately 10% of all lumbar disc herniations.(4)

Neuroradiological diagnosis

The extreme lateral disc herniation is not identified on myelogram because the pathology is beyond the lateral extent of the dural root sleeve.(5) On occasions, they are missed on CT scans due to the difficulty to visualize the area of the foramen if the adequate angle is not obtained. The diagnosis of an extreme lateral disc herniation is best based on MRI. The MRI will easily identify them due to the great advantage of multiplanar imaging with visualization on the sagittal and axial images of the neural foramen. A high quality MRI is recommended in those patients who are suspected of having a herniated lumbar disc due to the clinical symptoms mentioned above, especially if the CT scan is negative. The differental diagnosis for masses at or lateral to the neural foramen include conjoined nerve roots, enlarged ganglion, neurofibroma, schwannoma, metastatic neoplasm, and herniated disc.(3)

Surgical procedure

The nerve root, as it exists the dural sac, will travel inferior and lateral in the spinal canal until it reaches the level of the pedicle passing below it. This area is the neural foramen and is the area in which the root will be compressed by an extreme lateral disc. This area is not visualized in the usual operative approach that involves a hemilaminotomy because the foramen is covered by the superior articular facet and by the pars interarticularis which joins the superior and inferior articular facets of a vertebra. Trying to reach this area by this approach will require disruption of the articular facet joint with the potential for spinal instability and persistent pain. Abdullah et al (4) had used a laminectomy with medial facetectomy to expose the nerve root to the foramen. This approach will only expose disc herniations on the medial part of the foramen but those on the lateral part will be difficult to visualize and will require resection of the facet. Garrido and Connaughton (6) performed unilateral facetectomy to remove extreme lateral disc herniation with a 2.5% risk of postoperative spinal instability requiring fusion. Epstein had a 4% incidence of post-operative spinal instability requiring fusion and recommends fusion in those patients treated with full facetectomy for extreme lateral disc herniation who also had spondylolisthesis at the same level.(1)

To approach the foramen area, three main routes may be taken. The paramedian muscle-splitting approach (3) between the multifidus and longissimus muscles requires a large incision and an oblique view.

The intertransverse muscle and fascia have to be opened to visualize the nerve root and disc herniation. The muscle mass may block the surgeon's view that is in a postero-lateral direction. The posterolateral approach described by O'Brien et al. (7) utilizes a 30° view through the iliocostalis muscle. This approach will require a longer working distance in a small area. Both of these two previous approaches will not give access to the medial compartment of the spinal canal and disc. In the posterior midline route, a midline incision is done over the spinous process of the involved vertebral level(2). The paraspinal muscles are retracted laterally on the involved side, and the superior and inferior articular facets of the vertebral level of the compressed nerve root are identified. The lateral part of the pars interarticularis is drilled with a high speed drill preserving the medial part to maintain both facets together and to prevent instability. Using this technique, the foramen is unroofed. The exiting root that is displaced superior and lateral and also the disc herniation that lies inferior and medial to the nerve and ganglion are clearly seen at this time (Fig. 3). The root is retracted and after the posterior longitudinal ligament is opened, the disc material is removed. If an intracanalicular disc has to be removed simultaneously, a laminotomy is done, but a strong bone strut has to be left connecting the medial facet to prevent instability. At the end of the procedure, the nerve root may be covered with a fat graft. Jane et al. (8) use a similar exposure, but instead of removing the pars interarticularis, they remove the lateral part of the superior articular facet of the inferior vertebral body. I have found the interarticular route to be superior since the root and disc are visualized in a direct uniplanar area. Since this approach is similar to that used for intracanalicular discs, it is less disorienting and easily learned.

Recovery and follow-up

Results of surgery are usually very good with marked or complete improvement of the radicular pain. Sensory deficits may persist due to the long standing compression. There is no instability since the articular facets, joint capsule, and pars interarticularis are not disrupted.

Conclusion

The extreme lateral disc can be easily diagnosed by MRI in the axial and sagittal images. Surgery is recommended in most of these patients since it is improbable that the disc fragments will return inside the annulus. Pain in the extremity is often severe due to compression of the dorsal root ganglion. The best approach is a posterior midline approach through the lateral part of the pars interarticularis.

Resumen: Herniación discal lumbar lateral extrema se localiza en el foramen y comprime la raíz saliente produciendo síntomas atribuibles a la raíz nerviosa superior del disco y nivel vertebral envuelto. La mejor manera de establecer el diagnóstico es utilizando la imagen de resonancia magnética, la cual visualiza el foramen en un plano axial y sagital. El tratamiento quirúrgico puede ser variado, pero un abordaje posterior en línea media con remoción de la pars interarticularis expone fácilmente la raíz y el disco herniado en el foramen. Los resultados son usualmente excelentes, con la resolución del dolor radicular.

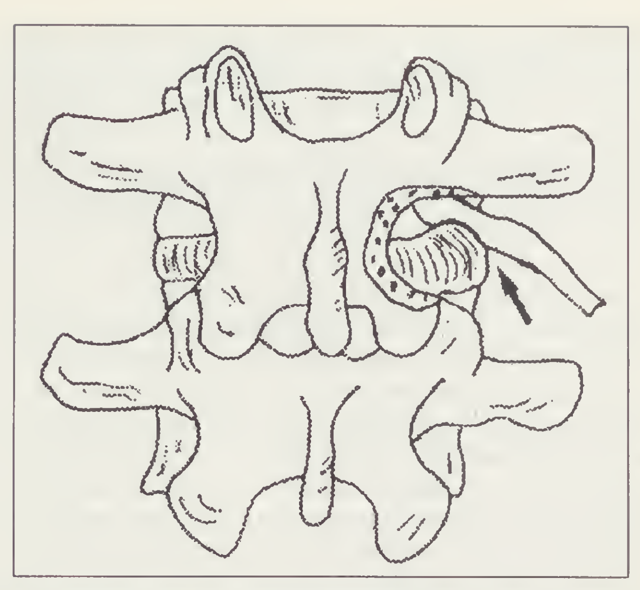


Fig. 3. Drawing illustrating the posterior midline approach through the pars interarticularis. The nerve root and ganglion are pushed superolaterally by a cephalad migrating extreme lateral disc herniation (arrow).

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Síndrome Marfan

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Resumen: Compartimos la experiencia en evaluación, diagnóstico y consejería genética para el Síndrome Marfan en 35 individuos de 23 familias. Utilizamos los nuevos criterios de diagnóstico clínico y observamos que las frecuencias de sistemas afectados corresponde a lo que se describe en la literatura. El tratamiento presintomático es posible y recalcamos la importancia del diagnóstico familiar para efectos de la adecuada consejería genética y el bienestar de los pacientes afectados.

Introducción

El Síndrome Marfan es una enfermedad hereditaria del tejido conectivo, de herencia autosómica dominante, penetrancia completa y expresividad variable. Para cada familia afectada la mutación genética es única, aunque la condición demuestra clínicamente variabilidad intrafamiliar. Afecta de manera igual a ambos sexos y la prevalencia se calcula en 1/10,000. Los sistemas cardiovascular, ocular, esqueletal, dermatológico y pulmonar están envueltos y las manifestaciones neuropsicológicas mayormente son problemas de habla y aprendizaje (1). Un 25 a 30% de los casos son esporádicos y hay un efecto de edad paterna en los casos en que la deleción del gen de fibrilina aparece como una nueva mutación en una determinada familia. Los criterios para el diagnóstico clínico se definieron en la conferencia de Berlín de 1986 (2). La clínica dependerá de la frecuencia de los síntomas en la población en general y si existen familiares afectados.

Es nuestro propósito informar sobre nuestra experiencia en la evaluación y consejería genética a familias que presentan el síndrome o que tienen factores de riesgo.

Materiales y Métodos

Tuvimos la oportunidad de evaluar 35 individuos en 23 familias para el Síndrome Marfan quienes fueron referidos a nuestra clínica y estaban en la edad pediátrica. Examinamos también a sus familiares adultos que sospechamos estaban afectados. Del total de individuos, 10 hembras y 18 varones llenaron los requisitos de diagnóstico utilizando la clasificación de Berlín (Tabla I). Diez familias (43%) confirmaron una historia positiva para el síndrome, mientras que trece (57%) constituyeron mutación nueva.

Tabla 1.
Síndrome Marfan - Criterios de Diagnóstico Clínico

	Mayor	Menor
ESQUELETAL:		
		- Deformidad tórax anterior
		-Dolicostenomelia /Aracnodactilia
		- Deformidad columna
		- Estatura alta
		- Hipermobilidad
		-Contraturas congénitas en flexión
CARDIOVASCULAR:		
	- Dilatación aorta	
	- Disección aorta	
		- Regurgitación aórtica
		- Prolapso válvula mitral
		- Aneurisma aorta abdominal
		- Calcificación annulus mitral
PULMONARES:		
		- Neumotorax espontáneo
OCULAR:		
	- Ectopia lentis	- Miopía
		- Desprendimiento de retina
SISTEMA NERVIOSO CENTRAL:		
	- Ectasia de la dura	- Meningocele lumbosacral
		- Dilatación cisterna magna
		- Problemas habla/aprendizaje
PIEL E INTEGUMENTOS:		
		- Estrías de distención
		- Hernia inguinal/otras

Breighton y colaboradores, 1988 (2).

Entre los pacientes consideramos a riesgo 4 hembras y 4 varones, ya que aunque no presentaban todas las características eran miembros de familias altamente positivas.

Además evaluamos 11 pacientes, 8 hembras y 3 varones con sospecha del síndrome sin familiares afectados y que presentaban una o dos características que utilizando la clasificación de Berlín eliminaba el diagnóstico de Marfan. Estos pacientes al estar en edad pediátrica necesitarán seguimiento prolongado para observar la evolución clínica.

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Resultados

La Figura 1 demuestra la frecuencia de síntomas en la población estudiada. Las manifestaciones esqueletales son las más frecuentes. Le siguen en frecuencia las cardiovasculares y las oculares en tercer plano. (Figura 2).

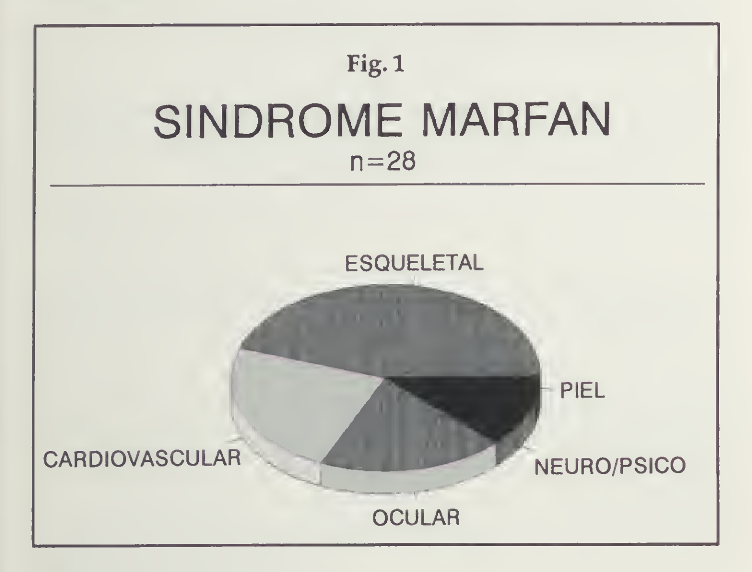


Fig. 1

Fig. 2.
SINTOMATOLOGIA DE 28 PACIENTES

Sexo	Varones = 18	Hembras - 10
MUSCULOESQUELETAL:		
Escoliosis	8	2
Pectus	3	1
Aracnodactilia/ Dolicostenomelia	12	7
Hiperextensibilidad	8	3
Estatura Alta	11	4
CARDIOVASCULAR:		
Prolapso mitral	4	4
Aneurisma aorta	1	2
Cardiomegalia	1	
OCULAR:		
Dislocación lente	4	2
Miopía	5	3
PIEL/INTEGUMENTOS:		
Hernia	1	
NEUROPSICOLOGICO:		
Retardo mental	5	
Aprendizaje	1	

Discusión

La fibrilina en la matrix celular es la proteína que se encuentra en las microfibrillas del tejido elástico. Los pacientes con el síndrome tienen disminución de estas microfibrillas en varios tejidos. El gen para fibrilina se sitúa en el cromosoma 15 (15q21.1).

Para facilitar el diagnóstico clínico del síndrome se estableció la evaluación clínica utilizando criterios "mayores" y "menores" en los diferentes sistemas afectados (2). Estos sistemas son: esqueletal, ocular, cardiovascular, nervioso central, piel e integumentos. La manifestación ocular mayor es la ectopia lentis, con la característica de luxarse hacia la parte superior. En el cardiovascular la dilatación y disección de la aorta se consideran criterio mayor. El prolapso de la válvula mitral se considera un criterio menor, ya que puede aparecer en la población en general. Es importante recordar que existen fenotipos menos severos que no se asocian a envolvimiento aórtico. La ectasia de la dura es un criterio mayor en el caso del sistema nervioso. Si existe un familiar afectado con el síndrome, se necesitan otros dos sistemas afectados. En aquellos casos en que no hay familiares afectados (nueva mutación), es necesario que tres sistemas estén envueltos para diagnosticar el síndrome Marfan.

De nuestra experiencia podemos inferir que el diagnóstico del Síndrome Marfan puede pasar desapercibido, como pudimos comprobar al hacer el diagnóstico a través de clínicas de cernimiento para el Síndrome X-Frágil, en el Proyecto X-Frágil (3). Una de las familias se diagnosticó al examinar un neonato con aracnodactilia y dolicostenomelia. En esta familia la madre está afectada y dos de sus otros hijos llenan los criterios para el diagnóstico. Tuvimos una abuela que sin saber que tenía el síndrome desarrolló problemas que resultaron en cirugía de emergencia para disección de aorta. Esta familia en particular con seis miembros afectados había pasado completamente desapercibida.

En la actualidad el diagnóstico molecular ya existe utilizando marcadores de DNA que rodean el gen de fibrilina (4). El diagnóstico presintomático es posible con pruebas moleculares en familias de alto riesgo.

En el diagnóstico diferencial tenemos que descartar la homocistinuria, que conlleva dislocación del lente (hacia la parte inferior), problemas severos musculoesqueletales y retardo mental. La prueba de cernimiento en orina utilizando nitroprusido es negativa en Marfan y positiva en homocistinuria. Podemos encontrar familias con prolapso de la válvula mitral sin ningún otro síntoma. Pacientes con el Síndrome X-Frágil pueden presentar un habitus marfanoide, así como se pueden confundir pacientes con el Síndrome "mucosal neuroma".

En la actualidad se utiliza Propanolol para retardar la dilatación comenzando el tratamiento cuando el diámetro aórtico es de 60mm. Este sería el tratamiento presintomático en un paciente de alto riesgo. Será necesario el tratamiento ortopédico en casos de escoliosis severa. La cirugía aórtica y herniorrafías se utilizan, así como tratamiento con estrógenos en la hembra de alta estatura. La restricción de la actividad física

será necesaria en deportes, como baloncesto y levantamiento de pesas. El pronóstico y expectativa de vida variará con el tratamiento presintomático, el sexo y las complicaciones. Los varones tienen menor supervivencia. Para consejería genética el riesgo de recurrencia en hijos de pacientes será un 50% para cada embarazo, dada la naturaleza autosómica dominante de esta condición.

Summary: We report our experience in the diagnosis, evaluation and counseling for the Marfan Syndrome in 35 individuals of 23 families. Utilizing the new clinical and diagnostic critariae, we observed that the frequency of the systems affected corresponds to those found in the literature. Presymptomatic treatment is possible, and considering the family history in the diagnosis is needed for adequate genetic counseling and the well-being of the affected patient.

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Artículos Especiales :

Ebola: "Un Síndrome Letal"

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Resumen: Las fiebres hemorrágicas virales son un grupo peculiar de entidades clínicas que representan un reto mayor para la comunidad médica y científica. Causadas por las familias Arena, Bunya, Flavi y Filoviradae, son las producidas por esta última familia las que recientemente han acaparado la atención mundial.

Dos géneros mayores, Marburg (con sólo una especie) y el Ebola (tres especies) han sido identificados al presente desde su primera aparición en 1967. Las especies de Ebola, denominadas acorde a su lugar de primera aparición, Ebola zaire, Ebola sudán y Ebola reston, han provocado 7 epidemias y 2 casos aislados en los últimos 26 años. Con la excepción de los únicos 2 brotes de Ebola reston en Washington (EU 1989-93), todas las apariciones han tenido lugar en el continente africano donde la forma enigmática se oculta el virus Ebola.

Al corriente, para abril de 1995, un saldo de 170 muertes han sido registradas tras su reaparición en Zaire, a 250 millas de su capital Kinshasa. Aldeas completas han sido puestas en cuarentena, y una alerta mundial está siendo enforzada por parte del CDC en Atlanta, la World Health Organization, y el gobierno de Zaire, como medidas de biocontención epidémica.

Muy pocos cuadros clínicos se comparan con las aterradoras fiebres hemorrágicas causadas por los filoviruses. tras un período de 2 a 21 días de incubación, aparecen los signos y los síntomas de una infección viral común. Estos progresan en severidad durante los próximos 5-7 días culminando con una sangría masiva a través de cualquier orificio corporal.

Por su alto índice de letalidad, por no haber una cura disponible al presente, y a consecuencia de la duda existente respecto a su potencial transmisión aérea, el virus Ebola continúan siendo una amenaza constante a la salud a través de todo el planeta.

Introducción

Y el segundo ángel derramó su vasija en el mar, y asemejose a la sangre de un hombre muerto...". Así comienza Richard Preston su nuevo libro titulado **The Hot Zone**(1), donde narra los sucesos verídicos sobre la identificación de los filoviruses como patógenos en el planeta. De forma elocuente y sencilla presenta el autor el impacto histórico y clínico que han tenido desde su aparición en 1967, hasta su última manifestación en 1993. Sus artísticas, en ocasiones crudas y espeluznantes descripciones de las fatales fiebres hemorrágicas que estos inducen en quienes infectan, pueden dar al lector la falsa idea de estar recreando una fantasía literaria, o de estar viviendo una amenaza apocalíptica. Mientras, la realidad del que se infecta con un filovirus, como el **Ebola**, es tan funesta como él así la describe.

FILOVIRUS

No existe tal vez otra familia viral, quizás con la excepción de la del VIH, cuya historia natural sea tan enigmática como la de los filovirus. Dos géneros mayores han sido identificados a partir del primer brote infeccioso en Marburg (Africa, 1967). Denominados **Marburg** y **Ebola** (especies **zaire, sudan y reston)**, de acuerdo a su lugar de aparición, estos dos filovirus han causado 8 epidemias independientes y 3 casos aislados, hasta su última aparición en 1993. Recientemente, tan reciente como este escrito, resurgen una vez más, en Zaire (aproximadamente 250 millas al sureste de su capital Kinshasa) en el territorio que comprende el poblado de Kikwit y la Provincia de Bandundu, en esta república africana. El virus: **Ebola zaire.** La enfermedad: la **Fiebre Hemorrágica Ebola (FHE).** Un médico belga da la primera voz de alerta cuando los miembros de un equipo de cirujanos desarrollan altas fiebres y sangrando profuso. Síntomas muy similares a los de un paciente intervenido por este mismo equipo el 10 de abril de 1995. Miles de personas, aldeas completas, han sido puestas en cuarentena como medida de biocontención de la nueva epidemia, según lo declara el gobierno nacional de Zaire y la Organización Mundial de Salud (OMS).[2]

EBOLA

Al presente alrededor de 170 fatalidades han sido reportadas, haciendo recordar las 362 víctimas de **Ebola** en el pasado[3]. Aparecieron por primera vez en la región este del bosque tropical lluvioso del Africa en 1976, cuando **Ebola sudan** amenazó al sur sudanés.

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Dos meses más tarde una especie doblemente letal surge cerca de Kinshasa (territorio actualmente afectado) bordeando el trayecto del Río Ebola, **Ebola zaire.** Este mismo subtipo fue sucesivamente identificado en 1977 en un caso aislado al noreste de Zaire. Finalmente para 1979 **Ebola sudan** reaparece en la misma región sudanesa. Los restantes brotes de **Ebola** (1989, 1992) corresponden a **Ebola reston**, las únicas identificaciones de un filovirus fuera del Africa. Tuvieron lugar en una unidad de cuarentena para monos importados de Filipinas, en Reston, Virginia (USA). Ningún caso de FHE en humanos fue reportado; centenas de primates murieron de fiebre hemorrágica y los otros cientos restantes fueron sacrificados para terminar la epidemia. Cuatro individuos demostraron serología positiva para **Ebola reston** durante el brote, sólo dos de ellos con síntomas no relacionados a una infección filoviral. Desde entonces **Ebola reston** es solamente considerado un potencial patógeno para el hombre[4].

EL VIRUS

La partícula viral de **Ebola** resulta ser tan intrigante como la enfermedad que produce. Bajo microscopía electrónica, su apariencia alargada con áreas convolutas y algunas ramificaciones, han llevado a los estudiosos a compararla con una cuerda, lombrices, o con la cabeza de la meduza, característica común de la Familia Filoviridae (viruses filamentoso)[4]. Los viriones de esta familia, emparentados de cierta forma con los Paramyxo y los virus respiratorios sincyciales (RSV)[5], se componen de un nucleocápsido que se revista de una envoltura derivada de la pared celular de su hospedero. Son de tipo RNA negativo de cadena sencilla y poseen en su estructura 7 proteínas; entre ellas una glicoproteína que proyecta como espículas a través de su envoltura. Siendo altamente antigénica y única para cada especie, esta proteína hace posible la detección serológica de los individuos expuestos. No existe reactividad cruzada entre los géneros **Ebola** y **Marburg**, no así entre las diferentes especies de **Ebola.** Genética y estructuralmente ambos géneros difieren claramente, las especies pueden diferir hasta por un 40%[6].

EBOLA - BROTES Y EPIDEMIOLOGIA

A pesar de que en la mayoría de los brotes las investigaciones epidemiológicas sobre **Ebola** han logrado detectar el caso índice, el nicho ecológico, así como el hospedero natural del virus todavía son un misterio para la ciencia. En su búsqueda, primates, roedores, insectos, cangrejos, murciélagos, entre otros, continúan siendo estudiados a través de los territorios que han sido afectados. La transmisión de Ebola es primariamente por contacto directo con jeringuillas contaminadas, o con pacientes severamente enfermos, por lo cual el riesgo para los trabajadores de la salud es usualmente mayor que el de la población en general. Secundariamente, a través de secreciones, sangre o productos de sangre, órganos y sexo. De otra forma se cree que el riesgo de contagio es mínimo, prácticamente ninguno si la exposición ocurre durante el período de incubación. A pesar de esto **Ebola** es considerado un virus letal, con la capacidad de ser potencialmente adquirido por medio de la vía respiratoria, como se evidenciara durante los brotes de **E. reston.**[7] Estudios en primates han demonstrado la infectividad de su aerosol, y la citología del tejido pulmonar infectado refleja el acumulo de los viriones en los alveolos. Por estas razones es clasificado como un virus de Bioseguridad Nivel 4, lo que ha limitado su estudio a muy pocos lugares en el mundo.

EBOLA - CLINICA

La infección por **Ebola** es raramente subclínica. Es capaz de inducir en el que infecta una de las más terribles fiebres virales conocidas. Tras infectarse con **Ebola**, y luego de un período de incubación de 2 - 21 días (promedio de 1 semana), aparecen abruptamente las fiebres. Se acompañan de un dolor de cabeza intenso y generalizado que en ocasiones se acentúa retrorbitalmente. Casi al unísono el individuo comienza a quejarse de malestar general, dolor muscular y articular, así como de dolor de garganta. Se desarrollan náuseas y vómitos en las próximas horas. Según escalan las fiebres, aparecen el dolor de pecho, dolor abdominal y diarreas. Durante las primeras 48-96 horas, los signos y síntomas pueden engañar al más astuto de los clínicos, comúnmente diagnosticando un síndrome viral. Otras manifestaciones tales como: fotofobia, linfadenopatía, conjunctivas inyectadas, ictericia y pancreatitis, pueden o no presentarse. Progresivamente incrementa la apariencia tóxica del paciente; más o menos entre el quinto y séptimo día de enfermedad, un exantema molbiliforme, similar al sarampión y con tendencia a denudarse, se manifiesta en el tronco en la gran mayoría de los individuos afectados. Los picos febriles continúan y así también el deterioro físico del paciente. La disfunción de los órganos se hace evidente, incluyendo la del Sistema nervioso Central (somnolencia, delirio o coma).Por último, se precipita una severa tendencia hemorrágica. Petequias difusas, grandes equimoses alrededor de venopunciones, vómitos en "borra de café" o hematemesis franca, melena, hematoquezia y/o sangrado interno. Cualquier orificio del cuerpo puede sangrar espontáneamente. El cuadro clínico es ahora difícil de confundir. A diferencia de las otras fiebres hemorrágicas virales (causadas potencialmente por Arena, Bunya y Flavoviridae), sólo la **Fiebre Hemorrágica Filoviral (Ebola y Marburg)** presenta el exantema característico y un curso tan severo y devastador. Muy en especial si se trata de la especie **Zaire,** cuya mortalidad es > 90% **(E. Sudan 50%, Marburg 25%).** Para la segunda semana (si no ocurren complicaciones de tipo hemodinámico, fallo hepático y/o rara vez

DIC precipitando la muerte), el paciente defervece y comienza a mejorar lentamente. Durante este período es todavía susceptible a desarrollar hepatitis recurrente, orquitis, myelitis transversa o uveitis.[4] El diagnóstico diferencial inicialmente incluye: otras fiebres hemorrágicas virales, malaria, fiebre tifoidea, fiebre amarilla, leptospirosis, plaga, ántrax y la hepatitis viral fulminante.

EBOLA - PATOGENESIS

La patogénesis del **Ebola** está directamente relacionada a su capacidad de infectar las células endoteliales y parenquimales, al igual que su predilección por el tejido conectivo y los macrófagos. En tejido vivo, el acumulo de partículas virales puede llevar a la formación de cristales intracitoplásmicos que se detectan como incusiones microscópicas. La infección de los macrófagos, y la consecuente producción de citoquinas immunoreguladoras, explican parcialmente el severo desarrreglo hemodinámico que la infección provoca. Recientemente los estudios atribuyen una propiedad immunosupresora a la glicoproteína de **Ebola**.[8] De esta propiedad se deriva la respuesta humoral deficiente observada y la afuncionalidad de los anticuerpos neutralizantes. Los hechos apuntan hacia una posible inmunidad celular efectiva en aquellos individuos que sobreviven a la infección.

EBOLA - DIAGNOSTICO

El diagnóstico de FHE descansa sobre la sospecha clínica. El historial (principalmente considerando la exposición en áreas endémicas), el cuadro clínico del paciente, y algunas pruebas convencionales de laboratorio, pueden sugerir la posibilidad de una fiebre hemorrágica viral. Leuocopenia, con linfocitopenia marcada en un inicio y luego neutropenia, trombocitopenia y alteraciones en las transaminasas hepáticas **(AST > ALT)** suelen verse con frecuencia. La disfunción plaquetaria está usualmente restricta a problemas de agregación. Sólo ocasionalmente se detectan anormalidades en los factores de coagulación (DIC). La visualización de las inclusiones citoplasmáticas, producidas por la replicación, masiva del virus **Ebola**, proveen una pista más en el diagnóstico. La confirmación se logra a través de la detección de sus antígenos, anticuerpos, o de su material genético por histoinmunoquímica, o microscopía electrónica.[9] Todo tejido bajo sospecha de estar infectado debe ser manejado con extrema protección, inactivándolo primeramente en las facilidades de un laboratorio de biocontención Nivel 4. Luego se debe tratar de cultivar el virus. La técnica de inmunoflorescencia (IFA), aunque disponible, resulta en muchos falsos-positivos por lo que sólo tiene utilidad como prueba de crecimiento epidemiológico.[10] El ELISA, que detecta el anticuerpo IgG en contra de la glicoproteína en la superficie del virus, es la prueba confirmatoria actualmente utilizada (CDC Atlanta, Georgia).[11]

EBOLA - CONTENCION Y TRATAMIENTO

Aun en estos tiempos de grandes avances científicos, microorganismos como el **Ebola** aparecen ocasionalmente para recordarnos nuestro limitado conocimiento de la naturaleza que nos rodea. Sin cura conocida hasta el momento, careciendo tan siquiera de un tratamiento que ayude a controlar la infección, el manejo de la FHE sigue siendo sólo de soporte. Los intentos de utilizar los anticuerpos neutralizantes de individuos que han sobrevivido al embate del virus han resultado infructuosos en múltiples ocasiones. la única línea de defensa efectiva conocida sigue siendo la biocontención.[11] Haciendo uso de la "técnica de barrera", se aíslan los individuos enfermos y expuestos hasta confirmar su negatividad hacia el virus, las visitas quedan restrictas. El personal a cargo directo del paciente se protege utilizando mascarilla, guantes, batas y protectores oculares. Todo material desechable debe ser descartado y quemado; el rehusable, tiene que ser debidamente esterilizado. Las superficies duras expuestas al paciente son regularmente desinfectadas.[11] En general, todas las medidas tratan de evitar cualquier contacto, por casual que sea, con la particular viral.

Durante este último brote de **Ebola** la gran mayoría de las naciones del globo han sido puestas en alerta sobre la problemática en Zaire.En los Estados Unidos y Puerto Rico se han tomado ciertas medidas de precaución, revisando las escalas y procedencias de los viajeros que arrivan al territorio. El CDC y su Servicio de Información Telefónica para Viajeros Internacionales (404-332-4559, 24 horas al día) brinda un recuento actualizado de la epidemia de FHE en Zaire; un intento más para contener la epidemia.

Comentarios

El surgimiento repentino de los filoviruses como Ebola ha hecho teorizar a los científicos acerca de su procedencia. Muchos la han atribuido a la masiva deforestalización y al daño ecológico que ha sufrido el Africa tropical en los últimos años. Los cambios provocados han hecho despertar de su sueño milenario a ciertas especies biológicas. Especies no solo como el **Ebola y Marburg**, sino quizás también como la del VIH. Por muchos años permanecieron resguardadas en este mundo selvático. Al ser completamente ajenas a nuestro sistema, principalmente al sistema inmune, representan una amenaza muy difícil de manejar, una amenaza ante la cual somos impotentes. ¿Estamos pagando quizás un alto precio por perturbar su sueño?, o como bien lo expresa Richard Preston: "tal vez la tierra está montando una respuesta inmune en contra de la especie humana. Está comenzando a reaccionar ante el parásito humano, la inundante infección de gente, los espacios muertos de concreto a través de todo el planeta..." Mientras, la realidad de los filoviruses sigue oculta en el continente africano.

Summary: No other clinical entity has attached more attention now-a-day than those precipitated by the infection with a Hemorrhagic Fever Virus. Potentially caused by Arena, Bunya, Flavi, and Filoviradae, only the latter has had such a major impact throughout the world. Two major genuses have been recognized since they become evident for the first time in 1967, the single-species Marburg, and the 3-species-Ebola (E. zaire, sudan and reston). With the exception of the 2 outbreaks of E. reston (Washington, USA 1989-1993), all of them have taken place in Africa, where the virus is still hiding among the wild-life of the Tropical Rain Forest.

Currently (in April 1995) the reemergence of Ebola virus has once more proven its fatality, leaving around 170 deaths in Zaire, 250 miles from its capital, Kinshasa. There is worldwide alert, sponsored by the CDC in Atlanta, the World Health Organization and the authorities in Zaire regarding its potential spreading to naive regions, in and out of Africa.

The characteristic clinical picture of a viral hemorrhagic fever has no match. After a 2 - 21 days incubation period a viral-like illness develops. As days go by, symptoms worsen, and by the 7th day, a severe and diffuse bleeding tendency ensues. The individual's death is the most likely outcome in the great majority of cases.

As a letal virus, without an available treatment and a possible airbone-route of transmission, Ebola virus will always be considered a persistent threat to the global health.

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Artículos Especiales :

Atrial Parasystole

Charles D. Johnson, M.D. FACC

Summary: A case of the relatively rare atrial parasystole is reported, and this interesting cardiac arrhythmia is reviewed. Atypical deviations from classical parasystole are reviewed, and modern concepts of parasystole as they differ from traditional, classical parasystole are addressed.

Key words: Parasystole; Atrial Parasystole; Arrhythmias

Definition

Kaufmann and Rothberger, in 1919, described the ingenious concept and requisites, including the protection (Schutzblockierung), of Parasystole - PS(1).

Parasystole is a special form of dual rhythm wherein one privileged pacemaker by virtue of local protection cannot be disturbed by the competing impulses of the other dominant cardiac rhythm or pacemaker. The parasystolic focus represents a protected, independent, automatic and regular ectopic rhythm. The surrounding protection is manifest by failure of extraneous impulses to disrupt, discharge or reset the rhythmicity of the parasystolic focus, a small group of cells.

Functional Characteristics

Parasystole has two major properties: 1. independence and 2. undisturbable. It depends upon two conditions: 1. ectopic automatic activity. PS is a form of altered automaticity: a. normal enhanced automaticity (membrane potential of -90 to -70 mV), or b. abnormal automaticity (-60 to -40 mV), or c. triggered activity resulting from after–depolarizations in a protected focus. 2. unidirectional block, which protects the ectopic automatic focus from invasion by the sinus or other impulses (Entrance Block), and permits the impulses to be conducted to the rest of the heart. Exit Block often exists also. An entance or protective block (Eintritts er Schutzblockierung) around the parasystolic focus provides protection from other dominant cardiac pacemakers and surrounding electrical events, and prevents extraneous impulses from traversing the area of depressed conduction to discharge and reset the focus. This block may be absolute, constant, or intermittent, or modulated. Classical PS enjoys absolute protection. The nature of this protective shield is incompletely understood.

Electrocardiographic Features

A classic parasystolic cardiac rhythm electrocardiogram (ECG) is characterized by: 1. Varying coupling intervals between the ectopic parasystolic complex and the relatively stable, dominant rhythm, generally a sinus-initiated complex or rhythm; coupling varies by 0.06 sec or more; 2. A common minimal interectopic, mathematically related time interval or cycle length, with longer intervals being multiples of this minimal interval or common denominator; 3. Fusion complexes between the parasystolic and the nonparasystolic complexes; 4. presence of the parasystolic impulse whenever the conducting chamber is excitable, and failure to appear whenever there is physiological refractoriness; 5. regularity, with variation of the interectopic intervals of 40-50 msec; 6. the parasystolic rates range from 20-400 bpm, 20-50 bpm being more common; 7. Exit block from the parasystolic focus, with failure of the parasystolic impulse to manifest when expected, i.e., when the heart is no longer refractory.

Parasystole can occur in the sinus node, in the atria as atrial parasystole (APS), in the AV node and junction, and in the ventricles. His Bundle PS is a form of AV junction parasystole.

In the case of APS one focus is usually in the sinus node and the other in the atrial myocardium. (1 - 13).

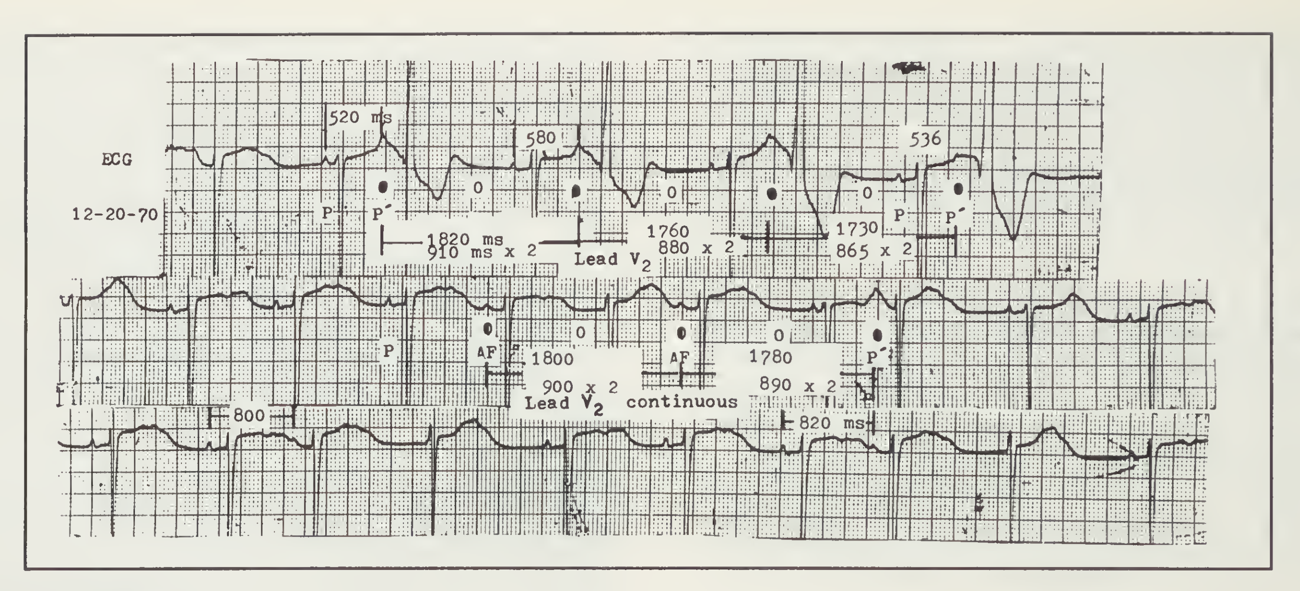
This classical concept of PS has been dramatically revised during the last few years, and a growing number of deviations from the classical postulates for PS are being recognized. The three classic signs of PS are not always present, and several different expressions of parasystolic rhythm may be present in the same tracing. Regular PS is an uncommon occurrence.

This communication describes a case of the relatively rare APS, and reviews this interesting cardiac arrhythmia, including its even more rare manifestations.

Case Report

This 46 year-old male suffered from Rheumatic Heart Disease with aortic valve and mitral valve disease, with pulmonary hypertension. There was also systemic hypertension. He was taking digoxin and a diuretic. Hypokalemia (K 2.1 - 2.3 meq/L) was present. His course was complicated by congestive heart failure.

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Electrocardiograms

Fig. 1. Lead V-$_2$. Atrial parasystole (APS). Long QT interval, U wave. Coupling intervals (P-P′) range from 520 - 820 ms, average 545 ms. Sinus P rate is approximately 65 bpm. Atrial parasystolic intervals (P′ - P′) average 1780 ms, which equals a manifest rate of 33.7 bpm, or an intrinsic parasystolic rate of 67.4 bpm with a 2: 1 Exit Block. In the upper strip there is atrial parasystolic bigeminy, with aberration of ventricular conduction.

P = sinus P wave.
P′ ● filled dots = atrial parasystolic beats.
◐ half filled dots = atrial fusion beats (AF).
0 open dots = non-manifest parasystolic beats.

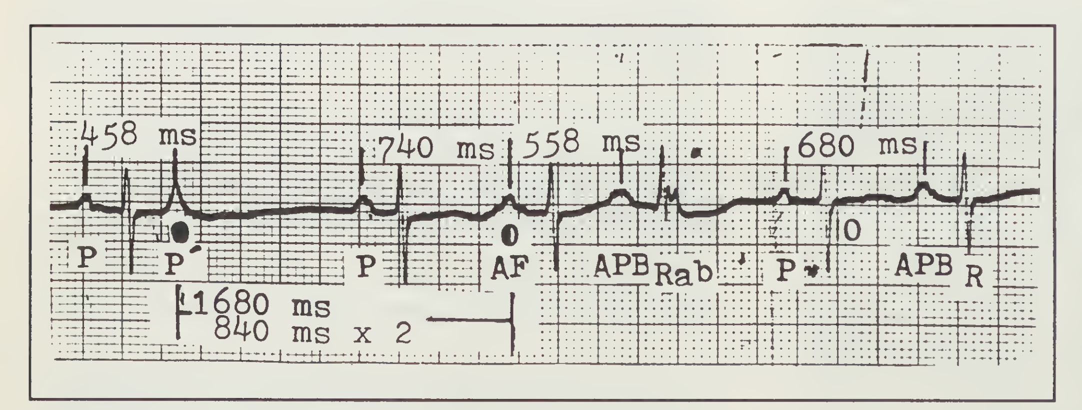


Fig. 2 A. 12-21-70. Lead III. APS. The second P wave is a parasystolic P′ wave without AV conduction (falls in the RP). The 4th and 6th QRS complexes are APBs, the first of which shows aberration of ventricular conduction. The P′ - P′interval is 1680 ms (intrinsic interval 840 ms) which equals a manifest parasystolic ate of 35.7 bpm (intrinsic rate = 71.4 bpm). The coupling intervals of the APBs are 558 ms and 680 ms (not constantly coupled to the sinus P waves).

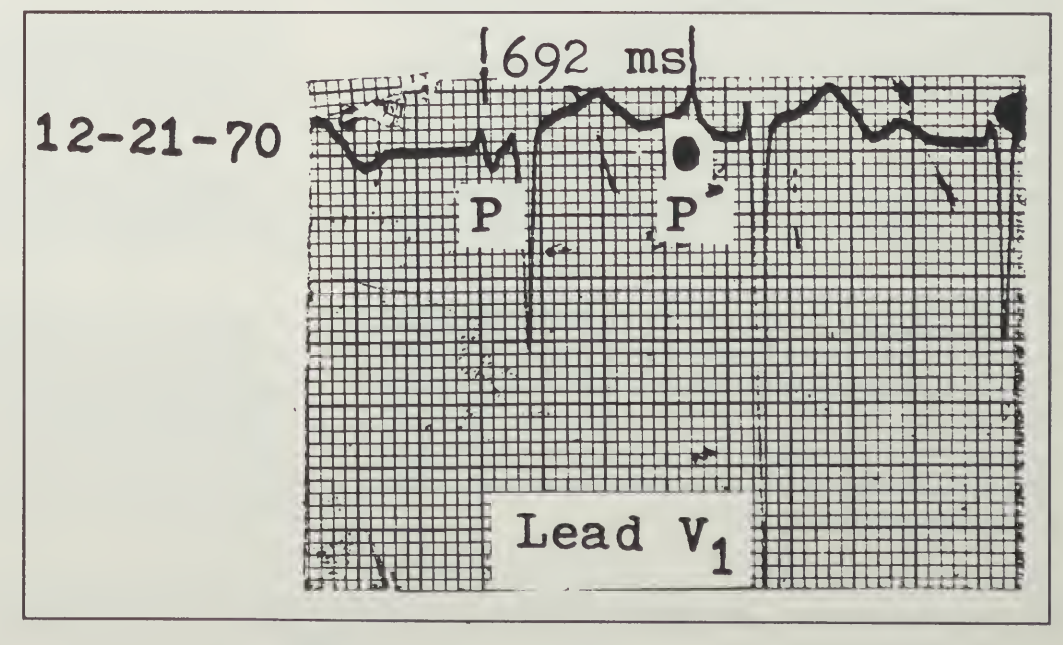


Fig. 2B. Lead V$_1$. The parasystolic P′ beat shows a large, peaked wave. The large wave following the aberrant QRS complex may be a large U wave.

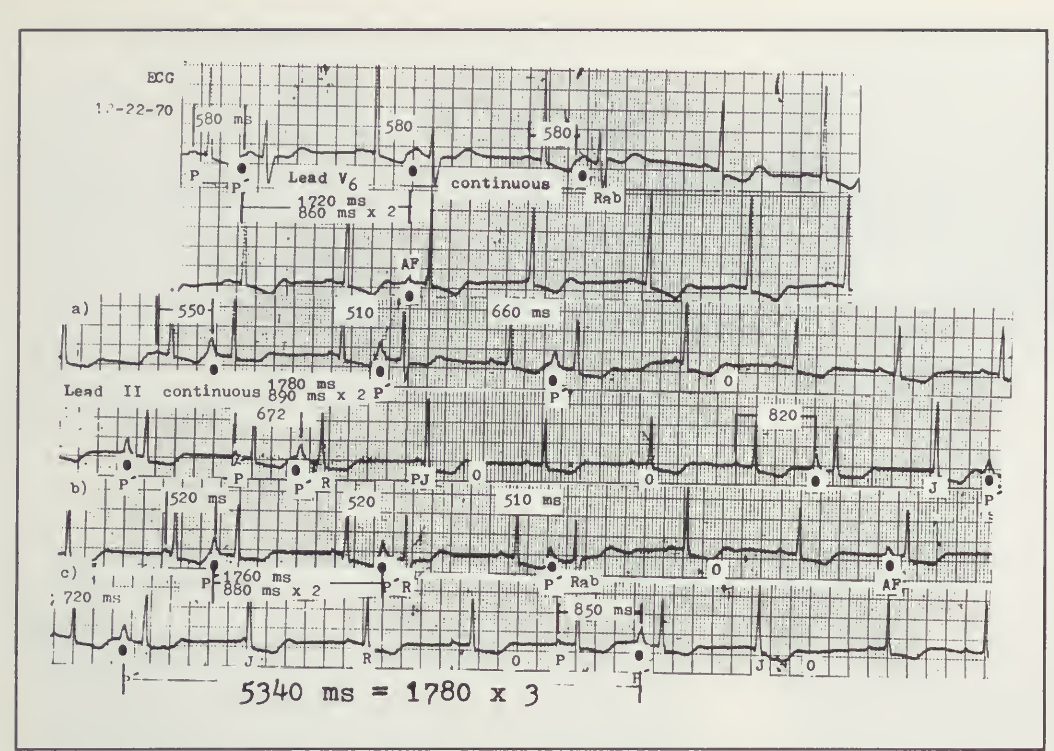


Fig. 3 A. APS. Upper panel V_6 and lower panel L. II. Upper panel: In the top strip the coupling interval is fixed at 580 ms. In the lower strip there is an AF beat, followed by a junctional escape beat (J). Lower Panel: Strips a, b and c. The parasystolic P′ waves are large, tall and peaked. The average intrinsic parasystolic P′ interval was approximately 1760 ms. for a manifest rate of 34.1 bpm, and the intrinsic interval was 880 ms, which equals an intrinsic rate of 68.2 bpm with a 2:1 Exit block. Some of these atrial parasystolic beats are followed by junctional escape beats with slight aberration (J) and AV dissociation. In the bottom trace the long interval of 5340 ms without manifest P′ waves equals 1780 ms x 3. Some of the earlier parasystolic beats are conducted with a minimally prolonged P-R interval (0.24-.26 sec) and with aberration of ventricular conduction. The coupling intervals vary from 510 to 850 ms. The P′ - P interval = about 1200 ms.
The P - P intervals = about 56-57 bpm.
J = Junctional.
Rab = aberrant QRS complex

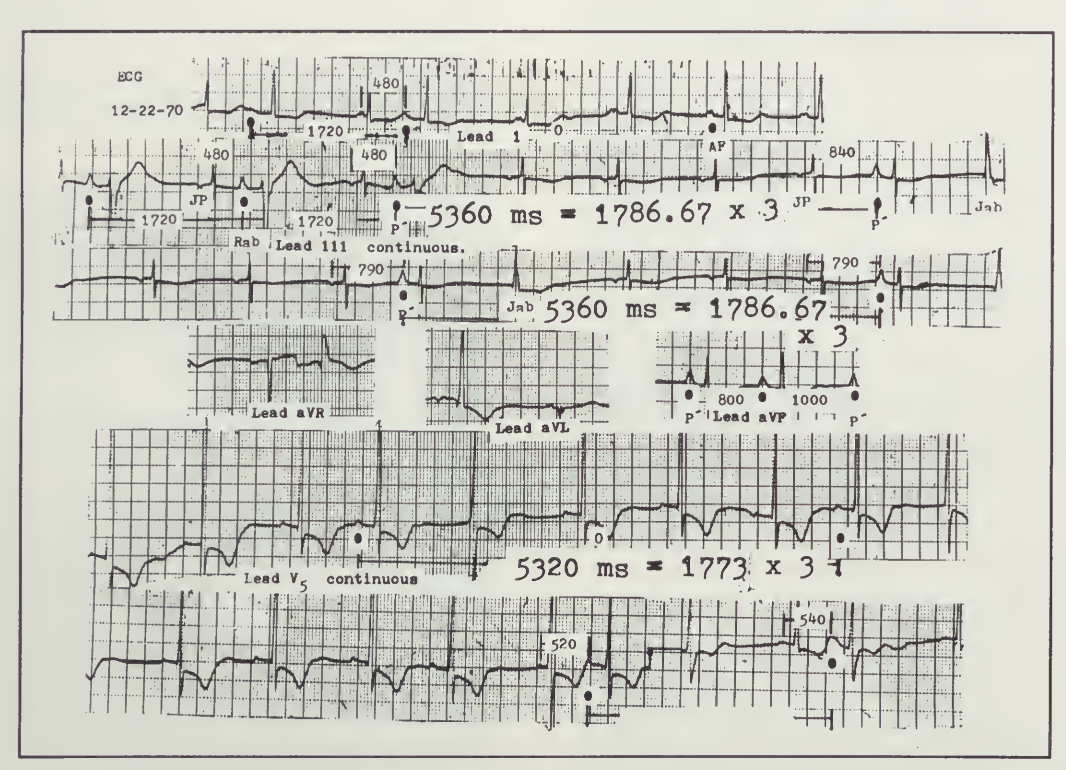


Fig. 3 B. Lead I and L. III. APS. A basic sinus rhythm changing to a high junctional (coronary sinus or low atrial) rhythm in L. III. The manifest P′ - P′ intervals range between 1720 and 1786.7 ms, and the coupling intervals range between 480 and 840 ms. The earlier APS beats are conducted with ventricular aberration. Lead aVF - P′ - P′ - P′ intervals are 800 and 1000 ms, and the parasystolic rates are 75 and 60 bpm, respectively - the "pure" intrinsic para-systolic cycle or interval. Lead V_5 - the manifest parasystolic interval = 1773 ms or 33.8 bpm, and the intrinsic parasystolic interval = 886.5 ms or 67.7 bpm as a 2:1 exit block. Coupling intervals were 520 and 540 ms. The last parasystolic interval in the bottom strip is not accurate as the ECG was turned-off during this interval. .

The overall P′ - P′ intervals average 1770.6 ms, or 33.9 bpm manifest rate, or 67.8 intrinsic rate. The P - P interval is approximately 1080 ms, = 56 bpm. The P′ - P (or retrograde P) interval is nearly constant at 1240 ms (48 bpm).

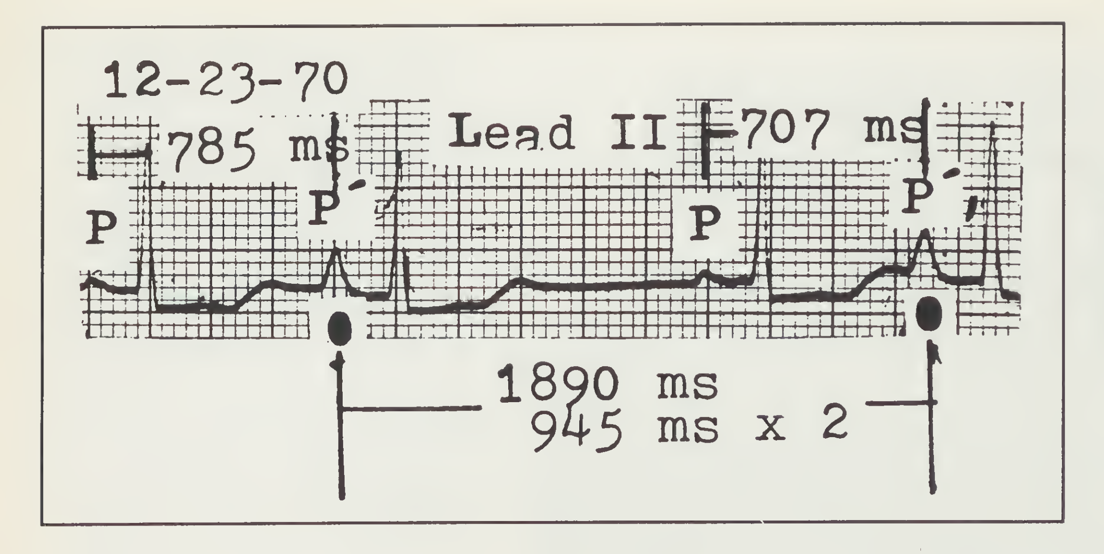


Fig. 4. Lead II. Serum K was 2.2 or 2.7 meq/L, CO_2 21, C1 95. APS. The P' - P' interval was 1890 ms = 945 ms (63.5 bpm) x 2, or 31.7 bpm manifest rate. The coupling intervals were 785 ms and 707 ms.

Discussion

Atrial parasystole is relatively rare, and is more difficult to diagnose. Electrocardiographic recognition and diagnosis of APS are based upon (3,7,10,12-24):

1. Ectopic independent atrial extrasystoles/premature beats, with the P' waves varying in their relationship and coupling interval to the preceding basic sinus P wave. The coupling interval in supraventricular parasystole may be very short, but APS is characterized by less variation of coupling intervals than is ventricular PS (VPS). The P' atrial deflection is often bizarre, tall and peaked, and has a different configuration than the sinus P wave. The P-R interval is usually longer than the basic P-R interval. Two rhythms compete for control of the atria.

2. The interectopic P' - P' intervals all have a common denominator (x). There is a constant short interectopic P' wave interval. But, APS cycles may be less regular than those of VPS. When sinus impulses are enclosed by parasystolic impulses, the interectopic intervals are shorter than the interval between two consecutive parasystolic impulses.

3. Atrial fusion beats (FB), when the sinus and parasystolic impulses simultaneously invade the atrial myocardium, occur infrequently and are difficult to recognize, because of lack of detail between the P and P' waves, limited duration of opportunity for fusion and resetting of the sinus node by the parasystolic beat (2,10,12,14,15).

4. APS has a conduction sequence. Exit Block (Austrittsblockiering) usually exists in APS, and should be suspected if the P' rate is very slow, and there are long interectopic intervals of sinus beats. A parasystolic P' wave would not appear during the atrial refractory period (RP). Exit block occurs as a delay or failure of exit of impulses from the parasystolic focus to activate and depolarize excitable, nonrefractory atrial myocardium. The exit block may be of all degrees. A type I Wenckebach exit block causes gradual shortening of the interectopic intervals terminating with a long interval that is shorter than the sum of two preceding cycles; a type II block results in the interval being a multiple (2:1, 3:1, 4:1) of the basic parasystolic cycle. Complete exit block abolishes any manifest parasystolic activity. A persistent exit block results in Concealed PS, which is rare.

Aberration of intra-atrial conduction results in the post-parasystolic sinus P wave showing a different contour. First, second and third degree AV junctional blocks may exist. Aberration of intra-ventricular conduction, such as phase 3 block, are said to be rare in APS (1,8-10,12,14,15,17,20).

Rate of Atrial Parasystole

The manifest parasystolic rate is usually slow, 20-60 bpm, due to the exit block, and is usually lower than or similar to that of the dominant rhythm. But, APS may exhibit rate changes parallel to rate changes in the sinus node, or slightly faster. In general, the rate is slower than that of VPS or junctional PS (JPS). The inherent rate of APS may range from 20 to 400 bpm. This inherent rate of the parasystolic focus can vary in response to cardiotropic drugs, electrolyte disturbances, autonomic influences and to the surrounding milieu (10,12,14,20,22).

Atrial Parasystolic Tachycardia

As a rate greater tahn 70 bpm. is rare. Vedoya (2) reported a 33-year-old healthy man with a rapid atrial parasystolic tachycardia with a manifest rate of 72 to 125 bpm. Katz (14) reported a rapid parasystolic atrial flutter of 375 bpm, and exit block.

Return Cycle in Atrial Parasystole

In APS, the Return Cycle or post-ectopic P′ wave - sinus P wave interval, shows marked variations. It may be longer than (due to a delay in the postectopic sinus P from the sinus node), the same as, or shorter than the sinus P - P interval. Interpolation of he parasystolic impulse could explain a shorter interval; but, even here due to concealed atrio-sinus conduction, the P - P′ - P interval is longer by 80 - 340 ms than the dominant P - P interval. Because of the delay the subsequent sinus P - P interval is shorter (3,7-10,12,14,17,18,23,25).

Sites of Atrial Parasystole

Left Atrial PS, observed in a healthy individual, had a mean atrial vector directed superiorly and to the right; the ectopic P′ wave was inverted in L. II, III, a VF, V3 - 6 and upright in V1 (22,23).

Multifocal APS has been reported. This can be represented by dual or double APS, APS plus concomitant Sinus PS, APS plus JPS, and APS plus concomitant VPS. Unidirectional protection existed (3,7,9,10,14,17-22,24).

Artificial APS can be observed from a fixed-rate, AOO atrial pacemaker (9,10,12).

Parasystolic Atrial Bigeminy

APS with Parasystolic Atrial Bigeminy. APS with Fixed Coupling Intervals. Classic APS exhibits a variable couplin interval. However, APS often presents as an atrial bigeminy, and thus could be unrecognized. Moreover, occasionally a constant, fixed coupling interval occurs transiently or permanently between the two simultaneous rhythms, parasystolic and basic. The APS in this situation becomes evident when the bigeminal rhythm is disrupted, such as by an interpolated parasystolic impulse, discharge of the sinus impulse by an extraneous impulse other than the parasystolic discharge, or exit block from the parasystolic focus disturbing the parasystole-sinoatrial node relationship. Parasystolic atrial bigeminy may be due to: a. a simple coincidental numerical mathematical relationship of the parasystolic focus and the sinus node, when the rates of both are equal and regular and each protected against the other - chance synchronization; b. supernormality - impulse generation during the supernormal period of recovery of the preceding impulse; c. Electrotonic influence or modulation of the ectopic parasystolic pacemaker by the basic dominant pacemaker; d. Linkage, which is frequent in Classical APS. This may result in "Reverse Coupling" in APS. The atrial parasystolic impulse concealed conducted retrogradely to the dominant usually sinus node, regularly discharges, interrupts and resets the also regular constant sinus pacemaker and sinus cycle. Since both pacemakers discharge at a constant interval, a fixed relationship is maintained - the dominant sinus pacemaker is coupled or linked to the preceding ectopic parasystolic pacemaker; the sinus P impulse is dependent upon and coupled to the parasystolic P′ impulse (in an ordinary extrasystolic rhythm the ectopic beat is dependant upon and coupled to the preceding sinus beat). This leads to fixed exact bigeminal coupling in APS, the return cycle being terminated by the basic sinus pacemaker (1,4-13,15,22,23,26).

Concealed and Interpolated Atrial Parasystole

Concealed PS is rare. It may be seen during sinus slowing, and it may be recognized by unexpected disturbances of AV conduction. In concealed bigeminy (VPS) the intervening beats always occur in odd numbers. However, there is an even variant of this, the intervening beats conforming to the formula, 1 + n, n being zero or an odd number (10,12,13,18,22,25-27).

APS may occur as "Interpolation" between two sinus mpulses, if the parasystolic impulse falls early in the sinus cycle at a time when the atria have recovered excitability but the sinus node and sinoatrial junction are still refractory; the parasystolic impulse cannot reach and reset the sinus pacemaker whose next spontaneous impulse occurs on schedule. The return cycle following a parasystolic P′ impulse is shorter than the sinus cycle. However, since the parasystolic focus is situated in the same bi-atrial chamber as the sinus pacemaker, the interval between a pair of sinus P waves enclosing an interpolated P′ impulse may be longer than the basic sinus cycle. This might be explained as a postextrasystolic prolongation/depression of the sinoatrial (S-A) conduction time of the next sinus cycle if the parasystolic P′ impulse shows concealed retrograde intra-atrial (A-S) conduction (8,9,10,12,14,17,18,22,25).

Nonclassical, Atypical Deviations from Classical PS. Irregular and Intermittent APS. Fixed Coupling in APS.

In recent years, basic, clinical and electrophysiologic studies have uncovered a number of modifications and deviations from the classical postulates of ideal PS. The original assumption of Kaufmann & Rothberger that a parasystolic pacemaker is completely independent and undisturbed by the dominant cardiac rhythm is no longer tenable. The three classic signs of PS, including APS, are not always present. These atypical phenomena make the recognition of PS very difficult. In many cases the parasystolic rhythm is not completely independent of the dominant sinus rhythm. In classical PS two consecutive P′ waves not separated by sinus impulses reveal the pure parasys-

tolic cycle, but pure parasystolic cycles may show a wide range of values. Irregular and Intermittent APS, APS with Fixed Coupling and Parasystolic Atrial Bigeminy may prevail. Long intervals that are not mathematical multiples of the basic parasystolic cycle occur, as well as wide variations of the parasystolic rates, of 40 - 270 ms. Such marked alterations, irregularities and intermittency in APS may be the prevailing rather than the unusual patterns manifested (11-13,26,28-30).

Mechanisms

Several mechanisms have been proposed to explain these deviations and distortions in classical PS. There are three major hypotheses and a number of other hypotheses prevalent today: 1. the concept of Electrotonic Modulation of an automatic parasystolic pacemaker, of Jalife, Moe and Antzelevitch (31,32); 2. the concept of Entrance Block, type I and type II second degree, proposed by Kinoshita et al (33,34); and 3. the concecpt of Exit Block, held by Izumi (30). Jalife & Moe, in 1976, indited electrotonic influence and modulation by the dominant rhythm across an area of depressed excitability or inexcitable gap that separates the parasystolic focus from the surrounding myocardium (this gap may offer electrical resistance), on the ectopic parasystolic focus (31). Antzelevitch et al, in 1982 (32), described the electrotonic influence effected by the parasystolic impulse on the focus itself (automodulation). This leads to supernormal modulation. Clinical and experimental electrophysiological studies from the work of these investigators, Castellanos, Oreto, Satullo, et al, have shown that electrotonic effects of activity in the surrounding tissues can modulate a pacemaker, so that the dominant non-parasystolic rhythm can effect an electronic link across the "zone of protection" (entrance block) and modulate or influence the parasystolic focus. Dominant sinus and other atrial pacemakers may expert modulation upon APS. Oreto et al, in 1986, described the first case to show the modulation of a sinus impulse upon APS (11-13,28-41).

Kinoshita et al have maintained that most cases of PS, including APS, whether intermittent or continuous, are governed by a type I, or type II, Entance Block. A protective entrance block may be intermittent and selective. Moe & Castellanos' groups noted that a nonparasystolic sinus impulse falling early in the parasystolic cycle delays the next parasystolic discharge, and a sinus impulse falling late in the cycle hastens the next discharge; but Kinoshita's case did not confirm this. Variation in the APS rate and intermittent APS with reset may be due to selective protection provided when the impulse reaches the parasystolic focus during its supernormal phase of recovery; supernormal modulation may be responsible for the occurrence of couplets. Protection may be transient, and provide only partial protection, instead of absolute protection during the entire cycle, as an intermittent failure of entrance block. Selective Phase 3 protection is limited to the initial portion of the cycle, and Phase 4 protection with a changing slope (6,9,12,16,18,22,28, 30-36,38-42). Kinoshita holds that second degree entrance block failure with supernormality, best explains intermittent APS, and his is the first such case (30).

Izumi and others have upheld the role of a second degree Exit Block in the causation of irregularity and intermittency in APS. Exit block might result from a sinus impulse that creates a forced state of refractoriness in the parasystolic area - Concealed PS (29,30,39).

The Automatic Nervous System and other factors, and APS

The sympathetic and parasympathetic autonomic nervous system, by changing the slope of phase 4, may play some role in atypical PS; a consequence of this biphasic autonomic influence is entrainment of the parasystolic pacemaker. Also, Wedensky facilitation may play some role, as well as drugs, electrolytes and the surrounding milieu. Entrainment may result in the parasystolic pacemaker exhibiting fixed coupling and reversed coupling. The large spontaneous day to day variability may be explained by parasystolic annihilation and concealed entrainment (10,12,14,20, 22,28,35,36,38,41).

Thus, APS may exist when the classical criteria are not fulfilled, and there are a growing number of exceptions to the traditional rules and criteria. There are reports of sinus echoes disrupting APS during a wandering pacemaker in the sinus node, to produce atrial parasystolic trigeminy (43). Automodulation as the propagated parasystolic impulse exerted an electrotonic influence upon the ectopic focus itself, resulting in an atrial tachycardia with a P wave identical to the P' of APS - a parasystolic atrial tachycardia (41,43).

In APS these deviations may prevail to the point that the diagnosis becomes inapparent. In intermittent APS the true situation might be unmasked by the constant coupling to the preceding sinus P wave of the first parasystolic P' wave of each sequence (8,39).

Electrotonic Modulation and Atrial Parasystole

Electrotonic modulation can result in a continuous spectrum that can manifest as an extrasystolic rhythm, modulated nonclassical PS, or classic PS. Intermittent APS may represent a form intermediate between classical APS and an atrial premature beat (APB). A parasystolic P' wave might change to a reentrant negative P wave (13,16,22,35,36). Satullo, Oreto &

Cavallaro recently pointed-out in a review paper the many expressions of PS. There were phases of regular and irregular PS and concealed bigeminy of the odd and of the even types, all in the same tracing, depending upon the degree of modulation. Minimal or absent modulation results in classical PS; mild modulation results in typical modulated PS; a strong modulating effect results in disappearance of typical PS and manifestation of concealed bigeminy; supernormal modulation was responsible for couplets of identical ectopic complexes (13,27).

In my described case of APS, the manifest atrial parasystolic rate varied slightly, between 31.7 and 35.7 bpm. The pure parasystolic intervals differed widely. The proposed mechanisms (vide supra) of Electrotonic Modulation, a Type I Entrance Block, a Type II Exit Block and Intermittent APS may have played some roles in this case. The coupling intervals ranged widely, between 458 and 850 ms. However, Fixed, Reserved Coupling, Atrial Parasystolic Bigeminy was also present. Atrial Fusion Beats were occasionally noted. There was one nonconducted parasystolic P′ wave. Multiple examples of aberrant ventricular conduction were present in my case, this being rare in APS according to Chung (17). Return Cycles varied only mildly, 1200 to 1240 ms, in the case, which differs sharpely from that of classic APS. Also, the first parasystolic P′ wave of each sequence, x 3, was coupled to the preceding sinus P wave. The sinus impulses usually fell late in the parasystolic cycles. A Concealed Bigeminy cannot definitely be demonstrated. One uneven, odd sinus beat existed sometimes between the parasystolic beats, but in most of the traces an even number of sinus beats ocurred. Possibly, the even variant of Concealed Bigeminy prevailed at these times. My case of APS suffered from organic Rheumatic Heart Disease with severe complications; hypokolamia was present, and the patient was taking digoxin.

Differential Diagnosis

APS must be differentiated from:

1. Atrial dissociation or complete intraatrial block which possesses both bidirectional entrance and exit blocks, in that the impulse is unable to exit from the independent ectopic atrial focus to conduct to the ventricles; the interectopic interval is more variable; AV block, recent ventricular or atrial myocardial infarction, serious heart disease and a pre-death state often exist in atrial dissociation. APS may be conducted to the atria and ventricles when the myocardium is nonrefractory, if the P′ occurs late enough in the cycle, i.e., the R-P′ is long enough to find the AV node and ventricles nonrefractory. In APS the ectopic P′ waves are similar to or larger than the sinus P waves, while in atrial dissociation the P waves are small, bizarre or show a fibrillation or flutter character (7,10,17,18,24,30).

2. Atrial Reciprocal Beats (Return Atrial Systoles), which have a consistent relationship to the preceding R. wave; inverted APS P′ waves have a consistent relationship to each other (18,27,30).

3. The common, ordinary extrasystolic, Reentrant Atrial Extrasystole, with varying degrees of conduction delay; the coupling interval and postextrasystolic pause are constant; these are dependent while parasystolic P′s are independent; in parasystole the ectopic impulses are more closely related to one another than to the dominant rhythm. Extrasystolic bigeminy and intermittent PS may be physiologically related and may originate from the same ventricular focus. Reentrant extrasystoles appeared to occur as the result of Mobitz I 2° entrance block - the sinus P coming after the end of the RP of the parasystolic beat reached and discharged the parasystolic focus after marked delay, and thereafter became a reentrant extrasystole. Moreover, occasionally ordinary extrasystoles have varying coupling intervals (10,12,27,40,44).

4. A Wandering Atrial Pacemaker or Multifocal Atrial Rhythm, can simulate PS during advanced SA block with junctional rhythm. A case of atrial parasystolic trigeminy with sinus node echoes during a wandering sinus node pacemaker, has been observed (43).

5. AV Junctional PS - P forces are posterior since the AV node is anterior; there are upright P wave (or inverted) over the precordium with an inverted or isoelectric P wave in V_1 (often - +) (23); the Ps are inverted in L. II, III, aVF, upright in aVR, aVL and isoelectric in L. I - axis about - 90°.

6. Concealed Bigeminy, in which a persistently active ectopic focus shows only uneven, odd numbers of sinus QRS complexes between the successive extrasystoles; Occasionally there are varying coupling intervals or almost constant shortest interectopic intervals. Kinoshita found that vagal stimulation with sinus arrest > 3.5 sec, hardly suppressed (no extreme prolongation of the cycle) the parasystolic impulse formation in true PS, while in Concealed Bigeminy due to reentry pure parasystolic cycles were not found during the sinus arrest. Concealed Bigeminy may be explained by 2: 1 concealed reentry, or by irregular PS due to modulated PS (10,12,13,18,22,27,30,44).

7. APS must be differentiated from an Orthotopic Cardiac Transplant. Native P waves may be present, dissociated from the donor QRS complexes; only the donor P impulse can generate a QRS complex.

Clinical Significance of APS

Little is known in respect to APS. There appears to be no established link between PS and heart disease. PS may be benign and present in healthy hearts, or it may be associated with organic heart disease and even presage death. Most cases of APS have been observed in patients with diseased hearts. PS may or may not be related to digitalis. Hypokalemia may cause APS, whic seems to be associated with smoking. APS occurred in a patient with chronic lung disease, and it has been observed in patients with acute injury, and with an acute psychotic episode. Atrial parasystolic trigeminy was observed in a patient with malignant lymphoma and hypertrophic cardiomyopathy. PS is almost always transient, but it may persist for months or years; there is a case of APS persisting for 6 years. About 65% of cases are older than 60 years of age. There is a male over female predominance, 3: 1 in APS. Chung found a PS incidence of 0.13% of all ECGs in a general hospital. PS can produce unpleasant palpitations and pressure sensations in the chest (1-3,5-8,10-12,15-18,20-24,43).

Therapy

No specific therapy is indicated, except when APS manifests as a rapid atrial parasystolic tachycardia or flutter.

Acknowledgement: Drs. Pablo Altieri and Juan Aranda, from many years ago.

Resumen: Aquí reportamos un caso del relativamente raro parasistole atrial y esta interesante arritmia es discutida.

Variaciones atípicas del clásico parasistole son revisadas y conceptos modernos de parasistole con sus diferencias de el clásico parasistole, también son discutidos.

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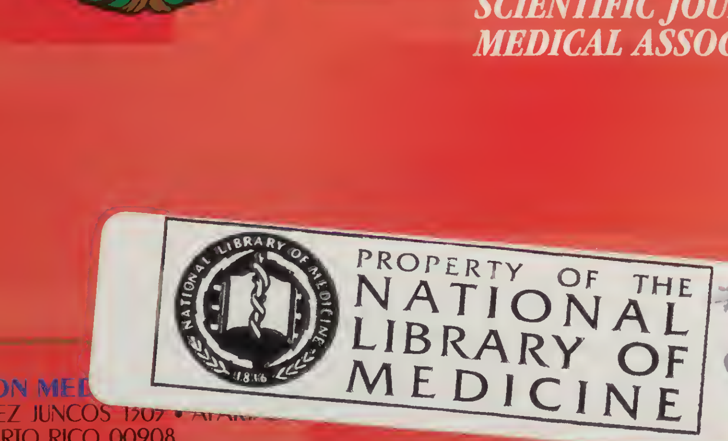
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Editorial:

La Relación Médico-Paciente:
¿Alianza... Colaboración o... Transacción Comercial?

—Rafael A. Ruiz Quijano, M.D.

Los últimos treinta años han visto una avalancha de progreso tecnológico tal, que el conocimiento médico ha crecido más en este corto periodo que en los dos mil quinientos años previos a partir de Hipócrates. A pesar de ésto, el descontento actual en el sistema sanitario es cada vez mayor y ha sido el motivo de muchos escritos. En su libro "Healing and the Mind", Bill Moyers se motiva a investigar métodos alternos de tratamiento, tales como la meditación y campos de investigación básica como la Psiconeuroinmunología[1]. Modelos experimentales con ratas sugieren que el sistema inmunológico puede ser modulado o alterado a través de acondicionamiento reflejo pavioviano y por cambios en el estado del ánimo. **¿Por qué razón entonces no le damos más importancia al efecto placebo positivo y enriquecedor de la relación médico-paciente?**

La explosión del conocimiento ha creado un grado de subespecialización tal, que se ha fragmentado el manejo médico de la unidad biopsicosocial que compone al ser humano. En su artículo **Cognocardiología,** Falk expresa su preocupación: "Con tantas subespecialidades, actualmente es posible tratar un paciente cardíaco sin tener que hablarle o tener que oírle"[2]. Otros han expresado la misma preocupación: "La tecnología diagnóstica actual corre el peligro de producir tecnócratas sin destrezas diagnósticas y empatía en vez de médicos"[3]. Sin embargo, muy frecuentemente el médico se encuentra en situaciones críticas que le requieren osadía con acción operativa o meramente abstención resignada. En **La Etica a Nicómaco,** Aristóteles reclama que la aplicación terapéutica requiere el uso de... "la recta razón para hacer lo debido, lo factible"[4]. Fíjese cuán vigente y actual es esta definición. El hecho de que algo pueda hacerse no implica que necesariamente deba hacerse. Quiere decir esto que el conocimiento científico-técnico en la aplicación terapéutica tiene que compaginarse con no hacer daño y a la vez guiada por un alto grado de honestidad para no minar la confianza que el paciente deposita en su médico.

Veamos otros factores que afectan a relación médico-paciente. Durante el entrenamiento clínico el estudiante se hace experto en trabajar a prisa, con urgencia y en manejar con rapidez y eficiencia toda crisis. Este proceso en gran medida va mermando la destreza de comunicación de tal manera que el estudiante de primer año es un mejor comunicador que un residente en su último año de entrenamiento[5]. En un estudio de 335 entrevistas médicas, un grupo de investigadores notaron que el médico promedio interrumpe al paciente en menos de 30 segundos de haber empezado a hablar y tarda menos de 90 segundos impartiéndole información relevante a su condición[6]. Ante el dolor y el sufrimiento creado por la enfermedad y la muerte, muchas veces el estudiante se encuentra solo sin tener estructuras de apoyo que le faciliten auscultar sus sentimientos de una manera positiva. Esto le lleva a crear una "indiferencia" y hasta cierta "frialdad" que en gran medida se confunde con la llamada "distancia terapéutica" muy necesaria para poder ayudar a el paciente con empatía y compasión, sin afectarse emocionalmente[7]. En gran medida el médico es entrenado a fascinarse con el mecanismo y causa de la enfermedad sin considerar su efecto devastador y desgraciado en la persona que la sufre. Mientras al médico le interesa entender y dominar la enfermedad, al paciente le interesa las consecuencias y el resultado del tratamiento[8]. Hay dos perspectivas diferentes.

Toda relación se da a través de la comunicación. El médico efectivo se comunica de una manera abierta, sincera, flexible, espontánea, sencilla y respetuosa. La comunicación médica efectiva en gran medida divaga... de lo vulgar a lo sublime... de lo alto a lo bajo... de lo fino a lo crudo... de lo difícil a lo sencillo... con una gran capacidad de adaptarse al nivel y a la necesidad de el paciente. La relación/comunicación médico-paciente es una transacción matizada por los valores y autonomía del segundo y las obligaciones y filosofía práctica de el primero. Es natural, por lo tanto que el profesional cree un ambiente de negociación y recomiende sin imponer para que el paciente coopere y juegue un papel activo en el mejoramiento de su condición.

Cuando el paciente es sumamente independiente o tiene una condición aguda totalmente reversible, puede bastar que el médico sea un experto técnico y competente, que da información solamente. Sin

Presidente Consejo Etico Judicial, Asociación Médica de Puerto Rico

embargo, cuando la enfermedad devasta y afecta significativa e irremediablemente la fibra básica del ser, el médico debe trascender toda barrera y convertirse en guardián bondadoso, en consejero y hasta en amigo. Su meta es que el paciente pueda resolver con paz, alivio y dignidad su situación particular.

Desafortunadamente la atención de pacientes con enfermedades incurables requiere de ciertas destrezas no enseñadas regularmente en las escuelas de medicina, toma tiempo y consume una gran cantidad de energía psíquica. Aunque parezca paradójico, en cierto grado este proceso es rechazado por la sociedad. Algunas personas prefieren un modelo de relación informativa con la expectativa (no necesariamente correcta) de tener un control decisional mayor ante la enfermedad. Además, el tiempo requerido para una comunicación efectiva no es reconocido como importante y por ende no es retribuido económicamente por las compañías aseguradoras de la salud.

Como producto de una sociedad agresiva y litigiosa, la comunicación médico paciente en ocasiones se torna hostil. Aun en situaciones de confrontación el médico viene llamado a mantener la calma y desarrollar estrategias positivas que le hagan acreedor del máximo respeto. Es imprescindible que el profesional se conozca bien, sea dueño de sus sentimientos, tenga un gran sentido del humor y sepa evitar el ataque. Tiene que saber reconocer un grito de desesperación y ayuda disfrazado de coraje, de tal manera que no se sienta atacado y pueda entonces estimular el desahogo de el paciente de una manera efectiva. Si la colisión es inevitable, lo prudente es abdicar y retirarse de la relación. Como podemos apreciar, la relación médico paciente requiere virtuosidad, paciencia, un alto grado de autoconocimiento y haber desarrollado destrezas positivas de manejar el "estrés" y de autosanarse emocionalmente. Basta con recordar el pasaje bíblico: ¡Médico!... ¡Sánate a ti mismo![9].

Otro ámbito pobremente considerado en la recuperación del paciente es su preferencia religiosa. Recientemente se ha correlacionado positivamente tener creencias y vivencias religiosas con una recuperación y altas hospitalarias más rápidas en envejecientes femeninas post-reemplazo de caderas[10]. Como podemos apreciar, ésto obviamente tiene repercusiones económicas (por ejemplo, para los hospitales en la época de los DRG's, o sea reembolsos globales por diagnóstico y no por días de hospitalización).

Debido a un adiestramiento a veces basado en la verificación empírica concreta y racional, muchas veces el médico desarrolla posturas agnósticas. La exposición al dolor, la muerte y el sufrimiento de niños, jóvenes e inocentes le hacen sentirse hasta ateos en ocasiones. No obstante, hay un rechazo en integrar el cuidado médico con la religión. No se le pide a el médico que cambie su postura, pero sí que reconozca y respete la perspectiva del paciente y le refiera de ser necesario a la autoridad religiosa correspondiente.

Esto nos lleva finalmente, a plantearnos qué constituye una educación médica adecuada ante las postrimerías de este milenio y a punto de empezar el siglo 21. Debido a el paso acelerado y cambiante del conocimiento tecnológico, un marco fundamental y mínimo de ciencias básicas (escogido por M.D.'s junto a Ph.D.'s pedagógicos para futuros M.D.'s y no para Ph.D.'s especializados) es imprescindible. Este debe ser acoplado con destrezas de la informática y la computadora. Lo que entonces ofrecería espacio en el currículo para el desarrollo de los aspectos psicosociales y humanísticos de la profesión tales como: la ética (conocimiento y valores no cambiantes). La comunicación debe enseñarse con un enfoque multidisciplinario, pedagógico y biopsicosocial.

En conclusión, actualmente para que el médico sea... "ideal, atento y cuidadoso"..., necesita:

1) integrar información y valores relevantes a la perspectiva del paciente al hacer una recomendación,
2) promover la participación activa del paciente a través del diálogo abierto y
3) persuadir racionalmente sobre las ventajas del tratamiento propuesto[11].

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Artículos Originales:

Prevalence of *Helicobacter pylori* at Antral Mucosa of Patients with Dyspepsia at University District Hospital

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Summary: A total of 120 patients with dyspepsia were evaluated by endoscopy to determine the prevalence of Helicobacter pylori in the gastric antrum in 1988. It was found that duodenal ulcer and gastric ulcer were highly associated with this bacteria. Also statistically significant association between H.p. and active gastritis was observed.

Introduction

In 1874 Bottcher (1) described the presence of spiral bacteria's in the human stomach; in 1906 Krienitz (2) reported spirochetal - appearing bacterial forms in specimens of stomach removed from patients with gastric carcinoma. Latter Doenges (3) in 1938 and Fredberg & Baron (4) in 1940 described spirochetes in sections of gastric mucosa and found them to be more common in patients with gastric c.a. and gastric ulcer than in patients with duodenal ulcers. Since then several studies have been done describing the association of bacteria dyspepsia. In 1984, Marshall and Warren (5) found the presence of this curved bacilli in 58 of 100 patients who had undergone elective gastroscopy. These bacteria´s were present in almost all patients with active chronic gastritis, duodenal ilcer and/or gastric ulcer. Since then, several studies have been done showing the relationship of peptic ulcer disease, gastric ulcer, gastritis and Helicobacter pylori to be statistically significant. Helicobacter pylori has been observed to inhabit the area beneath the mucus layer, adjacent to the epithelial cell surface and to lie within 2 mm. of the intercellular junctions (6). Their presence has been associated with epithelial cell flattening and decreased intracellular mucin; by electron microscopy H.p. has been found partially fused with epithelial cell membranes and occasionally covered by epithelial microvilli engulfed within endocytic vacuoles (7,8). They are usually localized in healthy fundic mucosa and colonize the antrum when acute gastritis is developed. Antral gastritis has also been associated with benign gastric ulcers which persist after ulcer healing as well as duodenal ulceration; in the latter there is a high association between antral gastritis and gastric metaplasia of the duodenal mucosa.

Gastric H.p. have been found significantly more in patients with duodenal ulcer and associated gastritis than in patients with gastritis alone. Because of the association of Helicobacter pylori with gastroduodenal disease and dyspepsia, a study was designed to determine the prevalence of Helicobacter pylori in antral mucosa of patients with dyspepsia at University District Hospital (UDH) in Puerto Rico Medical Center.

Method

All patients referred for elective gastroscopy at UDH from January to July 1988 were elegible for the study except those with esophageal carcinoma, gastric cancer or gastric surgery.

Endoscopy:
Endoscopies were done by the investigator and colleagues at the gastroenteology section at UDH. An Olympus XQ-10 fiberoptic endoscope was used. Routine biopsies were done when indicated and four extra specimens at four quadrants of antral mucosa taken. Biopsies were inmediately fixed in formalin at 4% concentration.

Histopathology:
Two slides of each patient were stained. One with hematoxylin & eosin, and the other with acridine orange fluorochrome. Examined with light and fluorescent microscope respectively. Histologic criteria for the diagnosis of chronic nonactive gastritis were intestinal metaplasia or lymphocitic infiltrates of more than 5 per high power field, active gastritis described as the presence of polyrnorphonuclear leukocytes at crypts or crypts abscess. Helicobacter pylori were observed as spiral blue rods (H&E) and bright orange fluorescent spiral shaped rods (Acridine orange) at the mucosal surface of the epithelium.

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Results

A total of a 120 patients were included in the study. Of this 63% were females and 37% males, mean age of 49 y/o and 50 y/o respectively. Twenty one percent were using NSAID's (Motrin, Clinoryl, ASA or Indocin), 59% were being treated with H-2 blockers at therapeutic doses (Tagamet 400 mg. b.i.d., Tagamet 800 mg. h.s. and Zantac 300 mg. h.s.). Endoscopic diagnosis (Figure I) were 32% normal, 6% erosive gastritis, 32% non erosive gastritis, 11% duodenal ulcer. 14% gastric ulcer and 5% duodenitis .

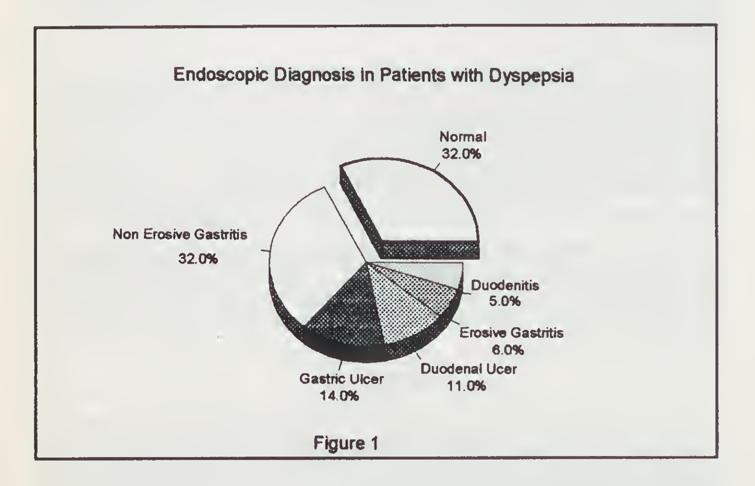


Figure 1

The percent of Helicobacter pylori positive patients for each endoscopic diagnosis were (Table I) 100% for duodenal ulcer. 90% for non erosive gastritis. 72% for gastric ulcer 67% of normal, 63% of erosive gastritis and 57% of duodenitis. There were 4 patients with non erosivc gastritis and duodenitis all positive to H.p., three patients with non erosive gastritis and duodenal ulcer all positive for H.p., two patients with non erosive gastritis and gastric ulcer only one positive for H.p. and finally one patient with duodenal ulcer and gastric ulcer positive for H.p..

Histologic diagnosis were (Figure 2) active gastritis 58%, chronic non-active gastritis 27% and normal 15%.

Helicobacter pylori per Endoscopic Diagnosis

Endoscopic Dx.	H.p. - Positive
Duodenal Ulcer	100%
Non Erosive Gastritis	90%
Gastric Ulcer	72%
Normal	67%
Erosive Gastritis	63%
Duodenitis	57%

Table I.

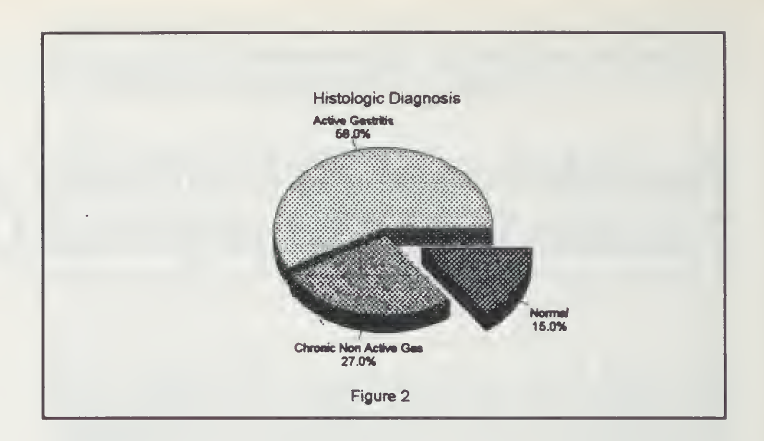


Figure 2

Upon cxarnination of the relationship between histologic diagnosis and prevalence of H.p. it was found that 81% of patients with active gastritis were positive. 63% of chronic non active gastritis and 57% of normal (Table 2).

Histology and H.p.

Histology	H.p.-Positive
Active Gastritis	81%
Chronic Non A.G.	63%
Normal	57%

Table 2.

The association between active gastritis and Helicobacter pylori was found to be statistically significant when compared with non active gastritis and normal.

Of patients with a normal endoscopy 47% were normal at histologic exam (57% positive for H.p.) and 53% had evidence of chronic gastritis (76% positive for H.p.).

Discussion

This is the first report of the prevalence of Helicobacter pylori in patients with dyspepsia in Puerto Rico.

As previously described Hui Tatsuta and Meilke (14,15 and 16) found that all patients with duodenal ulcer presented Campylobacter Like Organism (CLO) at antral mucosa, followed by non erosive gastritis and gastric ulcer as was found in this study.

Dooley (17) described the prevalence of CLO in patients with erosive gastritis to be 60% which in this study was 63%, and in patients with duodenitis 53% in this study 57%.

In normal persons serologic analysis (18,19 20.2L25) has showed increased in Helicobacter pylori antibodies up to 50% in patients over 50%. In this study up to 67% of patients endoscopically described as normal (40 pts.) were found to have H.p. at antral biopsics higher than was described in the literature. When histological examination of the antral biopsy of this patients, found endoscopically normal, was analyzcd 21 of them (40 pts.) were found to have chronic gastritis. Of this 76% were H.p. positive.

As previously described in the literature (22) histological examination was more sensitive in the diagnosis of gastritis than endoscopy. Of those patients with normal endoscopy and normal histology (19 of 40 pts.) only 57% were Hp positive louering the prevalence to what has been previously reported in the literature.

Helicobacter pylori have been mainly associated with activity of gastritis (23.24). In active gastritis a high correlation has been described as compared with chronic non active gastritis. In this study, there was a statistically sigluficant association between active gastritis and H.p. when compared with normal and chronic non active gastritis (Table 2).

In conclusion it was found that duodenal ulcer and gastric ulcer were highly associated with Helicobacter pylori at antral mucosa. The histological examination was foumd to be more sensitive than endoscopy in the diagnosis of gastritis.

Also a statistically significant association between Helicobacter pylori and active gastritis was observed.

Although this was a selected population sample of patient's with dyspepsia in Puerto Rico, it reflects the same finding's previously described by other authors throughout the world.

More extensive prospective studies should be done so as to determine the incidence, prevalence and pathological associations between Helicobacter pylori and gastroduodcnal pathologies in Puerto Rico.

Resumen: Un total de 120 pacientes con dispepsia fueron evaluados por endoscopía para determinar la prevalencia de Helicobacter pylori en el antro del estómago en 1988. Se encontró que la úlcera duodenal y gástrica estaban altamente asociadas a esta bacteria. Con respecto a la actividad inflamatoria en el estómago encontramos una relación estadísticamente significativa entre el Helicobacter pylori y la gastritis activa.

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Proximal Duodeno-Jejunostomy for the Safe Management of the Difficult Duodenal Stump

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Summary: Seven patients with peptic ulcer disease had severe scarring of the duodenum, making its closure at the time of gastrectomy difficult. They were managed intraoperatively with proximal duodeno-jejunostomy as a means to avoid the catastrophic complication of disruption of the duodenal stump closure with its consequent peritonitis. The jejunum used for this anastomosis was an extension of the long limb of a Roux en Y which is brought up to perform the gastrojejunostomy. The end to end duodeno-jejunostomy is performed proximal to a side to side gastrojejunostomy, hence the name, proximal duodeno Jejunostomy.

These seven patients had no unexpected immediate postoperative complications during the thirty days following surgery and were all discharged from the hospital well. During the same three and a half year period twenty five other patients were submitted to gastrectomy and had two duodenal stump leaks after conventional closures. One patient died and the other survived after prolonged intensive care stay. These differences were not statistically slgnificant.

These duodenojejunostomies are non-functional anastomoses and should consequently stricture, but in one patient it remained open and he developed bile reflux gastritis in spite of the Roux en Y gastrojejunostomy constructed to avoid this complication. These anastomoses should be constructed as stenotic as possible.

Introduction

Leak of the duodenal stump after gastrectomy is a harrowing experience for both patient and surgeon. The protracted drainage with skin erosion and pain, the discomfort of metabolic support and the ever present threat of a fatal outcome makes it imperative that we avoid this complication. It has been advanced (1) that operations that require stump closure should be avoided. This is not always possible if we want to offer the alternative of an antrectomy to a patient with gastric outlet obstruction or a pseudotumor of the duodenum due to edema and inflammation.

In the Department of Surgery at the Ponce Regional Hospital, we had decided to avoid bile reflux gastritis by the construction of Roux en Y gastro ejunostomies, avoiding the entrance of bile into the stomach after partial gastric esections. This decision was supported by the absence of nutritional problems associated with this procedure done in any of our previous patients contradicting reports found in the recent literature (2). Considering the alternatives of stump closure, upon being confronted with a difficult duodenal stump, we opted for an end to end anastomosis with the long limb of the Roux en Y as an alternative that had minimal probabilities of becoming complicated by leakage. Since then we have had the opportunity to perform seven closures of this sort, which constitute the subject of this report.

Materials and Methods

From April 1992 to November 1995 we have performed seven proximal duodenojejunostomies for patients with peptic ulcer disease of the duodenum. All patients were male and they ranged from 38 to 68 years of age. Five were smokers and four were alcoholic. Five of these patients presented with a gastric outlet obstruction and in the remaining two the indication for surgery was intractability, but a severe circumferential scarring of the duodenum was found at laparotomy. Four of the patients had significant preoperative upper gastrointestinal bleeding requiring blood transfusions. In one of the patients the procedure was done after an initial attempt at closure by the Nissen technique was grossly ineffective. In another patient a pseudotumor of the duodenum was found, where the edema and inflammatory reaction around the duodenum resembled a cancer on gross inspection.

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The Operation

After the vagotomy has been performed, the duodenum is sectioned just distal to the pylorus. as part of the antrectomy. If the surgeon anticipates problems with the stump closure or is not satisfied with one he has already constructed, he should take it down and perform the proximal duodeno jejunostomy. Upon transecting the jejunum, distal to the ligament of Treitz, the long limb of the Roux en Y is constructed by anastomosing the end of the proximal jejunum to the sicie of the distal jejunum at a point 60 cm. from the transected end. This long limb and its transected end are brought up retrocolically, cephalad to the transverse mesocolon, where the gastric and duodenal stumps are located.

At this point the end to end duodenojejunostomy is performed between the duodenal stump and the transected end of the long jejunal limb of the Roux en Y. The mesenteric part of the jejunum is closed to decrease the circumference of the opening to approximate it to the size of the fibrotic, stenotic duodenal stump opening (Fig. 1). The smaller the lumen of this anastomosis, the better since the object is to prevent reflux of bile into the jejunum a consequently into the stomach, avoiding bile reflux gastritis. A standard two layer anastomosis is effected (Fig. 2), taking generous suture bites to produce Inversion of the borders, and consequently reducing the lumen still further (Fig. 3). This is a non-functional anastomosis and should eventually close (3). Subsequently a standard side to side gastrojejunostomy is performed at a point distal to the duodenojejunostomy (Fig. 3) and the mesocolon is sutured around the jejunum as it emerges behind the colon to avoid an internal hernia. No attempt is made to drain the jejunum and only a nasogastric tube is used.

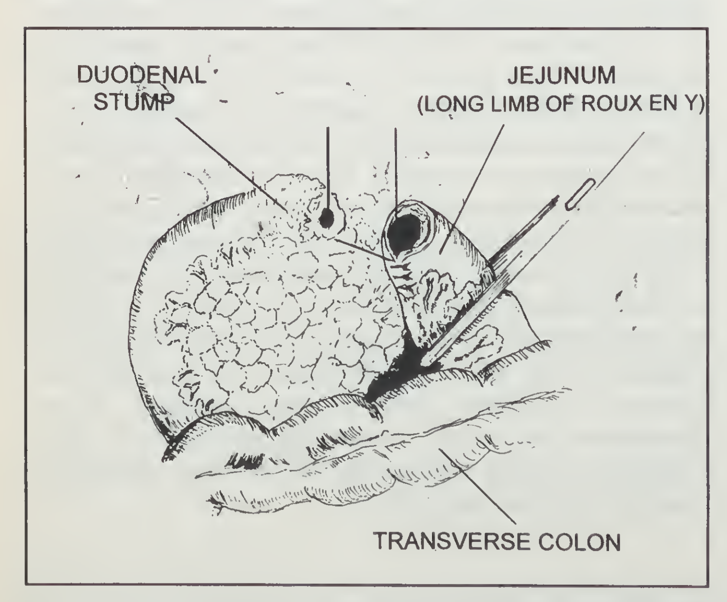


Fig. 1. Partial closure of the proximal extreme of the long leg of the Roux en Y.

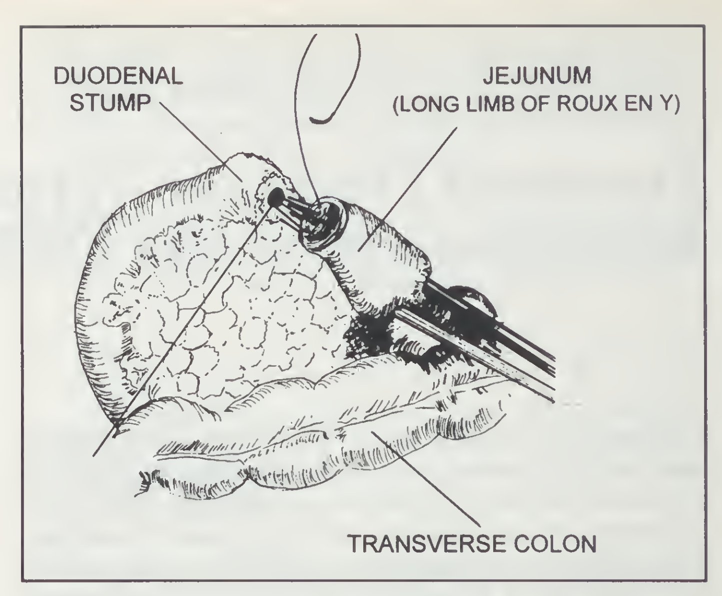


Fig. 2 End to end anastomosis between duodenal stump and jejunum.

Seven patients with this type of closure are compared to twenty five other patients on whom gastrectomy was performed in this institution during the same time period and conventional methods were used to treat the duodenal stump.

Results

All seven patients managed in this fashion recovered uneventfully from the operation. Six had no complications in the thirty day postoperative period and their length of hospitalization ranged from six to twelve days with a mean of 11 days. One of the patients with gastric outlet obstruction developed postoperative gastric atony requiring 29 days of hospitalization. On the long term one of the patients developed bile reflux gastritis due to a patent duodeno Jejunos-

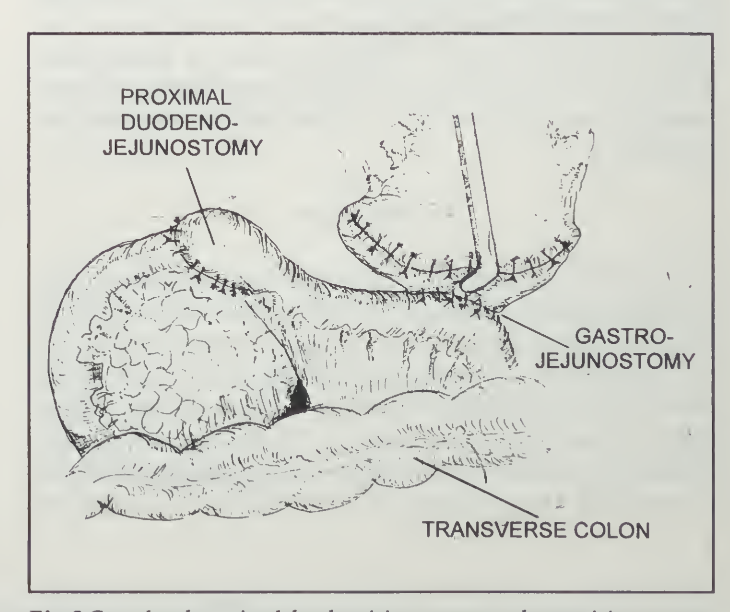


Fig. 3 Completed proximal duodenojejunostomy and gastrojejunostomy.

tomy that permitted bile reflux into the gastrojejunostomy. Since then the construction of a stenotic anastomosis has been our objective.

These results were compared to those of twenty-five gastric resections performed in the department during the same time period. In these patients there were two complications associated to the treatment of the duodenal stump. In one patient there was a frank disruption of a Nissen type closure, that resulted in the patients death in spite of corrective measures. In the other, the duodenal atump had been treated with an end tube duodenostomy with omental wrap. Thls maneuver also resulted in leakage wlth subsequent thirty day prolonged Intensive Care Unit stay. Two duodenal stump leaks in 25 patients is not significantly different from 0 leaks in seven patients, as tested by a Fisher's exact test.

Discussion

In 1964, Barnett and Tucker (4) reported the use of an end to end jejuno duodenostomy for duodenal stump closure. Their procedure differed from ours in one important point. After they completed a conventional side to side loop gastrojejunostomy as part of a Billroth ll type gastric resection, they brought the distal jejunum up as a Roux en Y leg to anastomose it to the duodenal stump. This procedure adds the extra anastomosis of a Roux en Y without the benefit of prevention of bile reflux gastritis. In our operation the additional procedure does not entail incrementing the operative trauma above that already planed. The ease with which the proximal duodenojejunostomy can be performed by the simple prolongation of the long limb of the Roux en Y by a few centimeters adds minimal trauma to the operation while gaining the benefit of the effective duodenal stump closure.

Recently the Bankroft closure and Nissen closure have been suggested as viable alternatives (5) to the difficult duodenal stump. The Bankroft closure consists of carrying out the distal gastric transection on the gastric side of the pylorus instead of the duodenal side as it is usually done. In this way healthy tissue is obtained to effect the closure. Since this preparation would exclude a portion of antral mucosa from the suppression of gastrin secretion by gastric acid and food bulk, the gastrin producing mucosa in this portion of antrum is resected before the closure is carried out. Since the blood supply of the intestine courses through the submucosa, it is practically impossible to remove the mucosa without affectlng the submucosa and the vascular irrigation of this remnant. The danger of being left with a piece of devascularized tissue to effect the duodenal stump closure exists in theory, and is our major objection to the procedure In practice, the clinical results with the operation have been favorable. The Nissen closure consists of suturing the redundant anterior portion of the duodenum to the fibrotic uicer base as the maneuver to effect the closure. Sutures in fibrosis always produce precarious holding ground. and the procedure is not consistently effective. In one of our patients, the duodeno jejunostomy was performed after a Nissen closure was considered unsatisfactor and the one death in the control group occurred in a duodenal stump leak after a Nissen closure.

The second duodenal leak in the control group occurred in an end tube duodenostomy with omental wrap. This procedure gained popularity a quarter of a century ago, as a consequence of frustration produced by suboptimal results in duodenal closure. However, it has proved to have its own set of complications and it has not been consistent in avoiding leakage and peritonitis as illustrated by this case.

Proximal duodeno-jejunostomy is advanced as a simple and effective maneuver to resolve the difficult duodenal stump closure. Although the differences in duodenal stump leak rates in our groups of patients was not statistically significant, it is difficult to argue against a 100% success rate with this new operation.

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Key Words:
Duodeno-jejunostomy, duodenal stump, gastrectomy.

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Transduodenal Sphincteroplasty in the Treatment of Choledocholithiasis in Pregnancy

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Summary: Transduodenal sphincteroplasty is a safe, effective, reliable procedure in the treatment of choledocholithiasis. The fact that it can be practiced without radiographic sulveillence makes it uniquely applicable during pregnancy. There are no reports applving this mode of treatment to the pregnant woman with choledocholithiasis.

Introduction

Multiple approaches have been suggested for the managment or choledochoithiasis during pregnancy. Among them are: non-operative treatment (1, 2, 3), endoseopic retrograde cholangiography with endoscopic sphincterotomy (4), cholecystectomy with operative cholangiogram with or without common bite duct exploration. The disadvantages of these treatments are retained stones in 4 - 14% of common bile duct explorations and the use of ionizing radiation in cholangiography. Retained stones may lead to cholangitis and/or pancreatitis. Ionizing radiation may be detrimental, even with the use of a lead apron over the uterus.

Operative Procedure

With the patient in the supine position under general endotracheal anesthesia the abdominal eavity is entered through a right subcostat incision. The gattbtadder is removed by the standard procedure. A #8 French catheter or ditator is passed down the cystic duct and through the sphincter into the duodenum so that the location of the sphincter can be determined by palpation of the tip. A duodenotomy at a 45 degree angle to the long axis of the duodenum is made where the catheter is palpated. Using the tube as guidethe sphincteroplashr is carried out by sequential division of the roof of the ampulla and interrupted 4-0 polylactic or polyglycolic absorbable suture approximation of the common duct and duodenal mucosa. The sphincter is divided completely until a #8 Bakes dilator can be passed retrogradely into the choledochus with ease. The catheter is removed and the cystic duct is ligated with a transfixion suture. The duodenum is closed in two rows of suture. No drains are used and the abdominal wall is closed in standard fashion.

Case Report

A 20 year old pregnant woman with no known illness, allergies, or previous surgical procedures, who has an estimated gestational age of 6 to 7 weeks, complains of pain over the right upper quadrant associated with fatty food intake and a yellow discoloration of her sclera for the past month. At the tirne of admission she had severe right upper quadrant pain radiating to the back with nausea and vomiting. On physical examination she is afebrile and alert with a regular pulse of 96/minute. A yellow sclera and moist oral mucosa is noted and the abdomen shows right upper quadrant tenderness with a positive Murphvs sign but no guarding rebound or referred tenderness and no distendon. No masses or visceromegaly are palpated and normal bowel sounds are heard. The pelvic examination revealed an enlarged gravid uterus about six weeks gestation. The rest of the physical examination is unremarkable. Laboratory findings revealed no leukocytosis and a positive pregnancy test. Her total bilirubin was 5.4 mg. %, with 4.2 mg.% being direct and a slightly elevated alkaline phosphatase of 167 Units. The serum amylase was nolmal but her transaminases showed a mild elev3tion to SGOT 232 (Normal 9-40) and SGPT 652 (Nonnal 5-49) with a hepatitis prophile negative by E.I.A. An abdominal sonogram showed "Multiple small ecogenic focci within the gall bladder compatible with cholelithiasis. Low level echoes compatible with biliary sludge" A fetal sonograrn estirnated the gestational age at 6 weeks 3 days. The patient underwent cholecystectomy 3nd a small gallbladder full of small multifaceted stcones was found. A dilated cystic duct and common bile duct prompted the performance of a transduodenal sphincteroplasty for the relief of choledocholithiasis. The pathologic report confílmed the findings of chronic cholecystitis and cholelithiasis.

Postoperatively the patient tolerated regular diet by the 6th postoperative day and the total bilirubin

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dropped to 1 .3 mg.% with a direct fraction of 0.71mg.% only. She was was discharged by the eighth postoperative day. The patient carried her pregnancy to term bearing a 3.34 Kg. baby girl with an APGAR of 8-9. Both mother and child have been well to follow up except for milk intolerance in the child.

Discussion

The experience with transduodenal sphincteroplasty in an elderly, sick population shows this to be a well tolerated procedure with mortality rates around 2% and complication rates around 5% (5). If the surgeon is experienced and can interpret the operative findings appropriately, in view of the clinical, laboratory and sonographic findings, a cholangiogram usually is not necessary and common duct stones are usually found on common duct exploration. Our experience shows that duct clearance after a correctly constructed sphincteroplasty is 100%, so insertion of a T-tube into the common duct is not practiced and a postoperative cholangiogram is not done. This technique is uniquely applicable to the pregnant woman with choledocholithiasis as demonstrated by this case report. Using this approach we can avoid the *risk* of teratogenesis and the increased risk of abortion associated to exposure to ionizing radiation (6). However, the increased risk of abortion associated to surgical proccdures is impossible to avoid. Patients will choledocholithiasis have an increased risk of ascending cholangitis and gall slone pancreatitis, so resolulion of this problem is imperative to avoid these life threatening complications.

A definitive operation for the solution of this problem avoids reoperation, readmissions, multiple consultations and repeated manipulation, all of which increase the cost of treatment of this condition.

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Reconceptualización Cognitiva en la Percepción de la Actividad Sexual de los Ancianos: Neoformación Estructural de Actitudes hacia la Sexualidad en la Vejez

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El mundo en el que vivimos ha evolucionado, los seres humanos que en él habitan también se transforman y algunos tienen el privilegio de envejecer. Mejores condiciones de vida, avances en todas las ramas científicas, y cambios de actitudes hacia unas más positivas han creado un aumento considerable en la expectativa de vida del ser humano. Lo anterior tiene su efecto en la proporción de personas en la población que excede los 65 años. Esto a su vez influye significativamente en múltiples aspectos, sociales, económicos y políticos (Sánchez Hidalgo, 1990).

Según aumenta la longevidad o la expectativa de vida de los seres humanos, las investigaciones científicas dedicadas a la gerontología, crecen en magnitud desproporcionada, en el desarrollo de teorías, estrategias, técnicas y procedimientos sobre los procesos que envuelve la etapa de la vida conocida como vejez. Esta ciencia trata del estudio científico de la vejez y de los procesos de envejecimiento normal; incluyendo aspectos fisiológicos, psicológicos, sociales y económicos. Esto da paso a que varias áreas profesionales aporten al estudio de ésta etapa. Entre ellas se encuentra: la medicina (especificamente la psiquiatría y la geriatría), la psicología, el trabajo social, y la sociología.

En este trabajo, se tratará el tema de la sexualidad en la etapa de la vejez. Se reflexionará sobre actitudes, percepciones, estereotipos y estructuras cognitivas que la sociedad e inclusive los mismos viejos tienen. Reconocemos que el mero hecho de hablar sobre sexualidad en algunos sectores de nuestra sociedad crea tensión. Sin embargo, cuando se habla de sexualidad en personas envejecidas, no es poco usual que las personas reaccionen negativamente y hasta presenten resistencia a discutir sobre el tema.

Antes de comenzar con la discusión nos gustaría definir varios puntos que servirán en la comprensión de dicho tópico. Primero, es delimitar cuando es que da inicio la vejez. Esta interrogante, que ha creado confusión aún en el ambiente científico, hace que existan numerosas definiciones de lo que es un anciano, de forma tal que, se ha tratado de establecer una edad promedio para definir claramente el inicio de la ancianidad. Es aquí, por convención, a veces incorrecta, que se empieza a pensar en los 60 años en adelante como edad avanzada argumentándose el comienzo del descenso de ciertas habilidades en el ser humano. Tenemos que recalcar que es por convención científica, ya que la disminución de habilidades sabemos, y está probado que no es igual para todo el mundo (Aiken, 1995). Sin embargo, es durante esta etapa de vida donde surgen múltiples cambios donde el anciano puede enfrentarse tanto a percepciones sociales, desconocimiento y actitudes negativas de otras generaciones como de su misma generación. Entre estos cambios se encuentran los físicos, del desarrollo intelectual, de la personalidad y sexualidad (Papalia y Olds, 1992). Es importante señalar que estos cambios surgen desde el nacimiento y duran toda la vida hasta el proceso de muerte.

Por sexualidad, nos referimos al acto sexual como tal, que puede incluir, pero no se limita a la penetración o juegos sexuales donde la pareja disfrute y experimente placer sexual. Por otro lado, cuando hablamos de actitudes nos referimos a un sentimiento continuo, sea positivo o negativo de una persona, hacia otras personas, situaciones u objetos. Si hablamos de actitudes, debemos de hablar también de estereotipos. Por estereotipos establecemos la clasificación específica de un sujeto dentro de un marco de referencia muy particular, lo cual hace que se tenga una visión determinada, negativa o positiva, del sujeto así clasificado. Por último tenemos que definir percepción, refiriéndonos al proceso que se realiza cuando existe una interpretación directa o indirecta de un estímulo dado, y que finaliza en el momento en que ocurre interpretación del estímulo, llegándose a la asignación de una categoría dada.

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Cuando revisamos la literatura, nos damos cuenta como los estudios en el área de la sexualidad en la vejez han aumentado considerablemente. Sin embargo, muchas controversias surgen en cuanto si las personas envejecidas tienen, deben o pueden tener sexo. Los estudios señalan que gran parte de esta población está activa sexualmente en algún grado (Keil, Sutherland, Knapp, Waid y Gozes, 1992). El número de personas de edad avanzada ha aumentado considerablemente, reportándose actividad sexual en las estratas de edad de 66 a 85 años (Sánchez Hidalgo, 1990; Keil et al, 1992). Los anteriores estudios demuestran que, si la persona posee unas características como lo son: una salud física adecuada, buena autoestima, estimulación adecuada, asistencia de adelantos tecnológicos en caso necesario, pareja sexual y variedad en la relación, estos podrían llevar una vida sexual activa y muy satisfactoria.

Si los estudios que se han realizado en esta área plantean relaciones sexuales en la edad avanzada como algo normal, cabe preguntamos entonces por que algunas sociedades y muy especialmente algunos sectores de la sociedad puertorriqueña ve como algo poco adecuado y hasta inmoral la práctica de la sexualidad en los ancianos. Muchas interrogantes han surgido sobre este tema, pero las de mayor peso, creemos que son las actitudes que se forman a lo largo de nuestro desarrollo y de nuestro proceso de socialización. De igual forma, los estereotipos que la sociedad adopta sobre estas personas activas sexualmente y los prejuicios y atribuciones negativas que crea la sociedad, influyen en las creencias y manifestaciones preconcebidas ante dicha conducta.

Es importante destacar que, bajo este proceso, aún el mismo envejecido, con bloques cognoscitivos no estereotipado, es quien da fin a su vida sexual, usualmente por la presión social a la que está sometido. Es en este momento que tenemos que esclarecer diferentes puntos para poder entender este fenómeno social. Según Covey (1989), numerosas actitudes sociales y estereotipos son aprendidas por las personas envejecidas, creando lo que el llama mitos, entre éstos, sobre la sexualidad en la vejez. Estos mitos, no son sino la formación de esquemas que han sido inculcados y han permanecido, en términos generales, a través del ciclo de desarrollo del individuo, validándose con o sin razón, a través del tiempo, mediante las experiencias propias y de otros. Estos estereotipos culturales crean un efecto negativo en la conducta sexual de los envejecidos. Tales estereotipos se clasifican coloquialmente como que los que practican la sexualidad son unos "viejos verdes", "bellaquitos" o "sucios" en el caso de los hombres, y en las mujeres que son "calentonas o calientes", etiquetas que la sociedad ve como desagradable, y que los que las llevan son percibidos como inmorales. Este pensamiento responde a la noción de que la sexualidad en la edad avanzada es inapropiada, negativa o discordante (Covey, 1989).

Para Brown, (1989) se establecen tres categorías por las cuales la sociedad influye en la sexualidad en la vejez. La primera es llamada proscriptiva; lo que implica una visión de la sociedad sobre la expresión sexual, donde las actitudes, creencias y valores ponen objeción en la libertad sexual. En ésta se observa la actividad sexual como anormal o tonta y se restringe por presiones sociales. La segunda, está enmarcada en la prescriptiva, donde la visión de sexualidad es exclusivamente de actividad genital, viéndose como poderosa y única y no permitiendo el paso de nuevas formas de expresión sexual. Por último, la perspectiva de liberación, que implica la visión de que la sexualidad es parte integral del ser humano con raíces en lo biológico, psicológico, interpersonal, social y cultural, incluyendo las dimensiones espirituales de la existencia humana a través de todo su ciclo de vida.

A medida que crecemos no es raro encontrar padres, que enseñan que la sexualidad es un tema inapropiado para ser tratado con toda sinceridad y confianza, o que no se hable de sexo en el hogar por considerarlo impropio, o por ignorancia de como traer y discutir el tema. Es este tipo de actitud lo que lleva a la formación de valores erróneos en cuanto a la sexualidad del ser humano. Valores erróneos que se llevan a través de una vida y que luego repercuten en las edades tardías del individuo en forma negativa.

No podemos dejar afuera el rol que desempeñan los principios de aprendizaje luego de establecidas unas actitudes. Estas actitudes hacia el sexo son reforzadas a cada momento, ya sea por los medios de comunicación masiva, familia, instituciones religiosas, educativas y la comunidad entre otras. En los medios de comunicación, la propaganda comercial gira en todo momento sobre aspectos de la sexualidad pero utilizando edades tempranas de la adultez. Mensajes llenos de carga sexual de mujeres bellas y jóvenes, las cuales refuerzan la visión de que se goza de poder sexual en la medida que se es joven y más aún en la medida que se posee una figura esbelta. El erotismo, según esta tendencia, está correlacionado a la juventud. Lo anterior trae como consecuencia la extinción de pensamientos sobre la sexualidad en la vejez. Esto a su vez puede influenciar el que no se desarrolle un análisis sobre la importancia del disfrute de la sexualidad durante la vejez. Debemos empezar a comprender que dicho factor, como elemento necesario para una vida plena, se puede manifestar y disfrutar en aquellos individuos ancianos que así lo deseen.

Por otro lado, tenemos que algunas instituciones religiosas han creado unas actitudes que influyen considerablemente en la percepción y/o práctica de la sexualidad. Entre estas se destaca una desaprobación del disfrute sexual, argumentándose que la sexualidad fue establecida para procrear, y que el acto sexual sin este propósito es desaprobado (Covey, 1989). Podría-

mos decir que dichas creencias en lugar de fomentar actitudes positivas, pueden dar paso para manipular o imponer unos valores discordantes en términos del adecuado disfrute del sexo.

Otra institución que consideramos tiene mucha responsabilidad en la formación de actitudes dirigidas a la sexualidad, es la académica. Durante el proceso de aprendizaje escolar de un individuo, a éste le enseñan, o por lo menos se espera que lo hagan, sobre la sexualidad humana. Sin embargo, si revisamos el enfoque que se le da a este tema, observamos como la información que se provee, solo responde a una porción minúscula de la gama completa de información disponible del ciclo de vida, dejando afuera el proceso de envejecimiento y sus necesidades sexuales, focalizando lo sexual en un aspecto puramente biológico, usualmente reproductivo/fisiológico. Es por esto que autores como Cavallaro (1991) proponen que la educación graduada sobre la sexualidad sea más directa y agresiva sobre todo en las edades avanzadas de la mujer. Aunque su enfoque se dirige a la mujer, y en la educación a nivel graduado con el ofrecimiento de currículos que comprenda esta problemática, el mismo puede ser modificado y ofrecido en edades tempranas de desarrollo académico, para de esta forma comenzar a romper con estereotipos impuestos por la misma sociedad en el proceso de socialización.

Entre las diferentes percepciones y actitudes inadecuadas que se han fomentado sobre la sexualidad en la vejez podríamos mencionar una indiferenciada hacia la sexualidad, verlo como un acto negativo, como solo parte de la procreación, estatus marital, e interesantemente como una actividad que puede ser ridiculizada y dirigida a detalles humorísticos (Covey, 1989). Muchas de ellas se han discutido en la literatura científica (Covey, 1989; Kornfein y Hailpam, 1993), sin embargo, queremos enfatizar aquí la del estatus marital y la del humor.

Al hablar de estatus marital nos referimos a que es mucho más fácil y posible la expresión de la sexualidad en la vejez cuando se cuenta con la compañía de una compañera(o). Sin embargo, surge otro fenómeno que se encuentra en estas relaciones, la "separación de cuerpos". El mismo responde a que aún estando casados, al llegar a cierta edad se tiende a dormir en camas separadas y hasta en cuartos separados. Dicha situación no es poco común en la sociedad puertorriqueña, y lo podemos visualizar en muchos ancianos. Obviamente, reconocemos que dicha conducta puede estar justificada mediante la necesidad de más espacio y mayor comodidad personal. Sin embargo, también tenemos que explorar el que responda a unas actitudes y prejuicios que son canalizados de esta forma. Otra situación que podemos considerar aquí es el hecho demográfico de que, debido a la supervivencia de la mujer (mayor en comparación con el varón), existe una proporción mayor de viudas que de viudos. Definitivamente muchas de estas serán mujeres relativamente saludables y con deseos de continuar experimentando actividad sexual. Cabe preguntarnos hasta que grado estas mujeres responden a presión social o estigmas culturales íntimamente arraigados en su psique, para no llevar a cabo actividad sexual aún cuando la desearían.

Al hablar de humor, vemos como se refuerza la ecuación de sexualidad y vejez como algo inaceptable. Cuando observamos programas televisados o revisamos la literatura de arte en épocas pasadas, nos damos cuenta cómo se ridiculiza al envejecido por tener deseos sexuales. Por ejemplo, las comedias de Geoffrey Chaucer, escritas para el siglo 14, ridiculiza al envejecido sosteniendo relaciones sexuales con una mujer más joven (Covey, 1989). Al observar los programas de televisión actual, con mínimas excepciones, se ejemplifica las actitudes negativas de la sociedad, poniendo de manifiesto estereotipos y reforzando la visión inmadura de una sociedad que no ha aprendido a comprender la vejez como algo normal. Podemos enfatizar aún más lo anterior cuando vemos la marcada prevalencia de anuncios televisivos donde los ancianos son los actores principales demostrando artículos tales como: pañales desechables de adultos, laxantes, adhesivos para dentaduras postizas y hasta la necesidad de comprar panteones anticipadamente. Aún cuando todo lo anterior puede realmente ser necesario, la utilización de ancianos para presentar dichos mensajes sirven para estigmatizar aún más a éstos, al presentar inadecuadamente la decadencia y debilitamiento físico que trae consigo el proceso normal de envejecer. De allí que estos comerciales refuerzan el que se vea a la vejez como algo asociado a incapacidad irremediable y sobre todo en la imposibilidad de tener una adecuada actividad sexual saludable.

Un punto que consideramos de gran importancia es como estas actitudes hacia la sexualidad en la vejez se ponen de manifiesto por múltiples profesionales de ayuda a esta población. Crose y Drake (1993) expresan que como profesional de ayuda debemos examinar nuestras actitudes, conceptos erróneos y contratransferencias sobre la sexualidad en la vejez. Como parte de una sociedad, estos profesionales no están exentos de la formación de estas actitudes negativas, por ende, es preciso la modificación de tales conceptos, para poder ser efectivos en nuestros servicios. Ejemplo de estos profesionales son las enfermeras de centros de envejecidos. Las actitudes que hayan desarrollado estas enfermeras, sean positivas o negativas, se reflejaran en el trato y cuido de los envejecidos, y en la manera de orientar, lidiar y tratar con ellos en relación al tema de la sexualidad (Luketich, 1991; Story, 1989). Sugerimos el que se realice mayor investigación al respecto para conocer si lo anterior puede influir en otras profesiones aliadas a la salud.

Específicamente una de las actitudes que se refleja en muchos centros de cuidado para envejecidos es la clasificación de las áreas, por sexo, hombres y mujeres. Esto no permite la interacción de ellos en los cuartos, donde son separados para dormir en áreas específicas del centro, cohibiendo así la posibilidad de relaciones sexuales en aquellos que pueden y lo desean. Interesantemente, los estudios de Story (1989), demuestran que las enfermeras son más permisibles a manifestaciones como abrazos o besos, pero no al contacto sexual entre los ancianos. Lo anterior tiende a reflejar una actitud no muy positiva y hasta un choque de valores, que posiblemente tenga un efecto negativo en el estado emocional del envejeciente. Con esto nos referimos a que es posible que dos personas en un centro de cuidado, realmente se enamoren y quieran manifestar este amor de la forma más idónea para ellos, incluyendo, la posibilidad de actividad sexual. Al tener actitudes negativas, las enfermeras o cualquier otro profesional, pueden no permitir estas manifestaciones emotivas. Esto puede repercutir en un estado de frustración y acortar la libertad de la respuesta sexual (Brown, 1989). Cabe preguntarnos hasta qué grado estas actitudes negativas hacia la sexualidad pueden ser compartidas o si existen en otros profesionales de la salud como mencionamos anteriormente. De hecho, recordemos que existe la posibilidad de que a mayor frustración pueda manifestarse patrones de agresividad, haciendo que el anciano pueda percibirse como un ente belicoso y con poca paciencia.

Reconocemos que la poca o inadecuada respuesta sexual del envejecido también puede responder a problemas de salud. Schiavi et al (1990), relacionan la baja frecuencia del acto sexual en el hombre anciano por problemas de impotencia y/o por problemas médicos. Sabemos que el padecer de enfermedades cardiovasculares (i.e., hipertensión, arterioesclerosis), endocrinológicas (i.e.,diabetes), mentales (i.e., Alzheimer) u osteoartríticas entre otras, se puede obstaculizar la actividad sexual. Más, sin embargo, en múltiples ocasiones la reducción es creada por el mismo temor de la persona y por las atribuciones negativas que se forman o que le forman. Recordemos que muchas veces, incorrectamente el mensaje que da la sociedad es el que no se debe tener relaciones sexuales en la vejez y menos aún cuando se padece de una determinada enfermedad, ya que la realización del acto puede ser perjudicial para la salud. De hecho, se ha demostrado todo lo contrario. Estudios señalan que la actividad sexual en la vejez puede ser beneficiosa en el estado no solo físico sino emocional del anciano (Covey,1989).

Un punto de mayor controversia son las actitudes desarrolladas hacia el sexo en personas ancianas homosexuales. El mero hecho de que la persona sea homosexual, ya es un punto que la sociedad toma en consideración a la hora de formar actitudes y atribuciones. Desafortunadamente la sociedad puertorriqueña aún permanece en la ignorancia en cuanto a la homosexualidad, aunque se evidencian cambios paulatinos. Si para un sector de la sociedad puertorriqueña el tener sexo en la vejez significa una conducta inaceptable, el que esa persona que tiene o desea tener sexo sea homosexual o lesbiana, implicará una carga doblemente negativa desde la perspectiva de una sociedad conservadora. Friend (1991), describe este estereotipo hacia las personas viejas homosexuales como una imagen negativa que surge del resultado de una poderosa internalización de una ideología heterosexista-homofilofóbica.

Como todo proceso de vida la aceptación de la actividad sexual en la vejez, requiere de unos patrones de adaptación y comprensión por parte de las personas. Estos patrones son explorados en un estudio que fue realizado por Kornfein y Hailparn (1993), donde encontraron ocho patrones o estadías. Estos patrones de adaptación son: acomodación, alternativas de orientación sensual/erótico, fantasías de romance, sexualidad proyectada, sexualidad desligada, retirada sexual voluntaria, retirada sexual involuntaria y revitalización. Explicaremos cada uno de ellos. En la acomodación, la persona modifica su conducta sexual entre su pareja de acuerdo a los cambios de salud y de funcionamiento.

En la alternativa de orientación sensual/erótica, es el mismo contacto sensual entre la pareja lo que es considerada como la manifestación de la sexualidad, dándose esta sin la relación de penetración pene/vagina. En las fantasías de romance, el envejecido usa la fantasía sexual como un sustituto de la relación real. En la proyección, el sujeto dirige sus impulsos sexuales a otro medio o persona. En el retiro sexual voluntario, lo que ocurre es que se deja de tener conducta sexual porque uno de ellos lo percibe como inadecuado. En el retiro sexual involuntario, la terminación de la conducta sexual surge por la falta de una pareja, o por limitaciones físicas o psicológicas propias o de la pareja. La revitalización, es cuando aumenta la actividad sexual luego de años de inactividad. Este estadío puede considerarse como uno muy adaptativo y en la medida que sea posible debe verse como uno muy saludable.

Estos procesos de adaptación pueden incorporarse en la población puertorriqueña envejecida con algunas modificaciones más positivas. Ejemplo de esto sería el uso de la fantasía. Sin embargo debido a que nuestra sociedad arraiga unos valores catalogados por algunos como muy conservadores sobre la sexualidad, el hacer uso de dicha modalidad pudiese hacer que el anciano creara un sentido de culpabilidad. Si representara estas fantasías posiblemente se categorizaría como un desviado o como lo antes dicho "un viejo verde". Por otro lado, la acomodación, inadecuadamente aplicada,

puede en vez de visualizarse como un cambio positivo, dependiendo del funcionamiento y/o estado de salud, llevar a que se adopte una asexualidad total. Esto puede manifestarse en la separación de las camas o de la habitación entre la pareja anciana, obviamente afectando negativamente a ésta.

Antes de concluir dicho artículo, es de gran importancia emitir unas recomendaciones que sean cónsonas a las necesidades de Puerto Rico. En primer lugar consideramos que las actitudes deben ser modificadas, tanto de las generaciones en formación como la de los mismos envejecidos. El preámbulo para lograr dichos cambios lo son el realizar investigaciones rigurosas que ausculten sobre la formación de estas actitudes, como son mantenidas y aquellos elementos necesarios para modificar aquellas que sean negativas en nuestra sociedad.

Consideramos que los currículos de las escuelas, en especial las escuelas de profesionales de la salud, deben ofrecer la oportunidad de brindar información sobre este tema. De esta forma se comenzaría a crear cambios en las actitudes de un pueblo, logrando concientizar a una generación que en un futuro llegará a ser parte de esta población de envejecidos.

Debe verse como otra alternativa el ofrecer talleres, grupos de discusión o ambos, donde el envejecido pueda adquirir el conocimiento y modificar aquellas actitudes (de estas ser negativas) sobre la sexualidad en esta etapa de la vida. Deben aprender, y dirigírseles a aceptar la idea, que todavía a la edad que tienen y dependiendo de sus cambios en salud y/o de funcionamiento, pueden presentar actividad sexual entendiendo que la manifestación de conductas sexuales no significa inmoralidad.

Por otro lado, consideramos que los centros de cuidado de envejecidos, deben proveer la oportunidad para la manifestación de la sexualidad, en aquellas parejas que dentro del centro se enamoran o que llegan al centro. Debe habilitarse o proveerse áreas para matrimonios o parejas que deseen continuar una vida conyugal sexual activa. La poca integración de los hombres con las mujeres, y la separación de actividades por géneros debe ser desalentada. El fomentar actividades en conjunto debe ser estimulado.

Por último, consideramos que la expresión de la sexualidad en el ser humano no debe estar limitada a los jóvenes. Esta expresión debe perdurar hasta el momento que físicamente y/o psicológicamente pueda ejecutarse para beneficio del individuo. De hecho, los adelantos tecnológicos y científicos han dado mayor satisfacción a personas que debido a su edad presentan problemas de impotencia o frigidez, evidenciando mayor satisfacción personal y hasta mayor longevidad. Si las actitudes sobre la sexualidad en las etapas tardías de desarrollo, pueden ser cambiadas en forma positiva, es evidente que encontraremos una población de envejecidos con mayor grado de satisfacción personal y con unas actitudes positivas en el proceso de envejecer. Esto permitirá una aceptación más adecuada y saludable de los procesos que envuelve el llegar a la vejez. Debemos dirigirnos a ser instrumentos de cambio positivo en términos de actitudes sexuales hacia la vejez. Esta debe ser nuestra meta.

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Artículos Especiales :

Complementariedad en la Práctica de la Medicina

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Se dice que hay complementariedad entre dos o más entes, o sea, cosas que existen, si al mezclarlos o acoplarlos en proporciones adecuadas se obtiene un producto mejor, o en otras circunstancias, una actuación de más calidad, más profesional.

Dicha complementariedad puede producirse entre dos entes físicos o entre uno físico y el otro espiritual.

El ejemplo universal de esa complementariedad puramente física lo manifiesta el binomio MATERIA-ENERGIA. Esto se manifiesta en unas proporciones que responden a las necesidades del ambiente donde funcionan. Ese binomio ejerce su influencia sobre las fuerzas que ejercen entre sí los planetas, sus lunas y el sol, controlando así la simetría y la armonía en nuestro sistema solar. Noten la tranquilidad de éste nuestro ambiente, aquí en este momento, cuando nuestro planeta está girando alrededor del sol a una velocidad aproximada de 66,600 millas por hora y a la vez girando su eje a unas 1,100 millas/hora; día a dia, mes tras mes, año tras año, siglo a siglo. Un frenazo y volamos todos como vuela el polvo.

Esa misma acción complementaria del binomio MATERIA - ENERGIA es la que inicia y conserva la vida en nuestro planeta. Para ese propósito se manifiesta en la forma que llamamos LA LUZ. En el año de las guácaras hace cutucientos años decía y dice todavía el primer párrafo del primer libro de la Biblia, Génesis, que el Creador hizo y lanzó la luz para organizar el universo. Los astrónomos y físicos de este siglo han llegado a la conclusión que fue una gran explosión luminosa la que inició el universo. O sea, una gran explosión de materia y energía.

Los científicos del siglo pasado descubrieron que la luz era pura energía en la forma de ondas electromagnéticas. A principios de este siglo, Albert Einstein probó, con sus investigaciones del efecto fotoeléctrico, que la luz es también materia en forma de fotones. Surgió una gran polémica al respecto y fue el físico Niehls Bohr el que trajo la armonía al proponer que sencillamente era ambas cosas actuando en complementariedad.

La luz inicia y mantiene la vida del ser humano, la flora y la fauna. La luz constantemente inicia, fomenta y controla procesos biológicos que son básicos para iniciar y sostener nuestra vida, la de la flora y la de la fauna. Cuando nace el bebé decimos que la madre dio a luz; una manera de decir que lo dio a la luz, se lo entregó a la luz.

Esa complementariedad de la luz la manifiestan también las partículas subatómicas las cuales reaccionan para liberar la energía que se consume en los procesos metabólicos de nuestro cuerpo. Ese comportamiento de la luz está enfocado hacia la creación y mantenimiento del ambiente donde nace y se desarrolla el ser humano. El vivir y convivir de ese ser humano en el planeta trae consigo los sentidos, los sentimientos y todo lo espiritual. He ahí la necesidad de actuar de acuerdo a la complementariedad del binomio:

MATERIAL - ESPIRITUAL

Para esa convivencia nace y se desarrolla el ser humano con un grado de inteligencia, con el poder de ensimismarse a meditar distinguiéndose por ello del animal irracional, y luego retornar a su contorno con el propósito de actuar haciendo uso del libre albedrío, o sea, la voluntad. Puede actuar bien o puede actuar mal de acuerdo a la presencia o ausencia de virtudes y vicios.

La inteligencia facilita la adquisición de conocimientos para luego razonar y actuar. A menor grado de inteligencia mayor énfasis en la fe y la experiencia para actuar. Cualquiera que sea el caso, lo importante es que el ser humano en acción no puede prescindir del uso de los sentidos, de los sentimientos y lo espiritual, para bien o para mal, en mayor o menor grado. Vamos a unos ejemplos.

Un individuo mezcla un número de ingredientes y confecciona un manjar que para él es exquisito. Lo ofrece a otro individuo quien hace uso de sus sentidos de la vista, olor y sabor. Puede estar o no de acuerdo con el chef. Si lo está se siente satisfecho, complacido. Siente admiración por el chef que complementó esos ingredientes. El chef a su vez se siente complacido y satisfecho de su arte. Éste es el caso de una complementariedad puramente física que sirve de enlace para aunar el sentir de dos personas.

La misma experiencia sucede en el arte musical. Un compositor se inspira y produce una obra y quiere compartirla con los demás. Hace uso de cosas materiales como son los instrumentos musicales y el papel de música con las líneas del pentagrama que

usa para escribir signos que representan notas musicales que no son otra cosa que diferentes niveles de frecuencias de sonido. Esas se usan para escribir la melodía y la armonía que establecen el mensaje musical. Cuando el mensaje musical es interpretado por otra persona ésta se identifica con el sentimiento expresado por el autor.

Lo mismo sucede con la pintura, la escultura y la poesía. Un individuo expresa sus sentimientos a través del arte y otro lo percibe. Se establece una comunicación de interior a interior, de sentimiento a sentimiento, usando un medio físico para llevarlo a cabo. No pierda de vista el hecho que ésos son individuos sin relaciones personales en la inmensa mayoría de los casos. No hay contacto directo de intimidad.

Para terminar este preámbulo al tema que nos concierne, quiero compartir con ustedes un hecho que viene a reafirmar contundentemente la ineludible presencia del aspecto espiritual en las grandes hazañas del hombre.

En el año 1976 se lanzó al Apolo 11 hacia la superficie de la Luna. Los pasajeros eran los astronautas Neil Armstrong, Buzz Aldrin y Michael Collins. Al llegar a la órbita lunar, Neil y Buzz fueron lanzados desde la nave hacia la Luna en el módulo El Aguila. El módulo estuvo a 7 segundos de estrellarse cuando logró encontrar un sitio donde aterrizar. Cuando Neil Armstrong abrió la escotilla y comenzó a bajar la escalerita del módulo, todos los televisores del mundo estaban enfocados en su persona. Cuando su zapato estaba a unas 6 pulgadas de pisar la superficie de la Luna dijo estas palabras: "Un corto paso para el hombre, pero gigantesco para la humanidad".

Mientras esto sucedía Buzz Aldrin abría el maletín de sus cosas personales y ponía sobre el paño de una mesita una hostia y vino consagrados previamente en su Iglesia Presbiteriana. Pidió un minuto de silencio a la base en Houston y comulgó. Era domingo. Leyó el Evangelio de ese día: "Yo soy la vid, ustedes los sarmientos, el que mora en mi y yo en él, ése dará fruto. Porque sin mi nada pueden lograr."

A través de la historia de las civilizaciones, son innumerables los acontecimientos que demuestran hasta la saciedad la necesidad de buscar el balance adecuado entre lo físico y los valores humanos para lograr una actuación correcta y evitar el desastre. Pero vamos a lo nuestro: en nuestra profesión esa complementariedad es un sine qua non.

A la luz de esa premisa vamos a discutir el binomio cuya complementariedad nos guía hacia la buena práctica de la medicina:

LA MATERIA MEDICA
↑↓
LOS VALORES HUMANOS

La materia médica la componen las destrezas y conocimientos físicos. Los valores humanos son las virtudes.

Es obvio que usted tiene que dominar la materia de los dos años básicos con énfasis especial en la Anatomía, Fisiología, Histología, Patología y Farmacología y luego en los dos años clínicos las destrezas invasivas y no invasivas con énfasis en el historial clínico, examen físico y diagnóstico diferencial. Después en el internado se amplían esos conocimientos y se pulen destrezas para decidir, si no lo ha hecho ya, la especialidad a la cual piensa dedicar su vida profesional. A estas alturas ha participado en reuniones de departamentos, de comités y conferencias de Educación Médica, entre otras actividades. Después le siguen los estudios y examen de reválida de la especialidad. Van preparados para la práctica, solicitan y obtienen privilegios en una Institución Hospitalaria y radican su consultorio en esa área.

Se supone que ya en esta etapa usted posea y haya leído las leyes que rigen la práctica de la medicina en esa área. Es obvio también que al usted ser aceptado en la Facultad de una institución, lo primero que usted hace es leer el reglamento que rige dicha institución. Está por demás decir que su educación nunca termina. La autodidáctica y los programas de la Educación Médica Continuada le mantienen al día.

Sus colegas deben ser informados que usted está ejerciendo en el área y a tal efecto así se hace saber en la reunión de la Facultad. Está permitido por la ética el enviar una tarjeta de presentación con nombre y especialidad y fijar la misma información en una placa pequeña en la puerta de la oficina. Cualquier propaganda persistente y de mal gusto está fuera de orden. La etiología de esa aberración es variada:

a. Super-ego enmascarando o una fobia a la competencia.

b. Desespero económico.

c. Mentalidad"supermarket".

d. Desconoce o rechaza la integración de los valores humanos en la práctica de la medicina.

Usted carece de prudencia cuando pregona sus conocimientos y destrezas. Usted está vendiendo salud.

Cuando las promesas que se hacen envuelven mercancías, terrenos y cosas por el estilo, con

cambiarlas, devolver el dinero o ir a las cortes, se resuelven. Cuando se afecta o se pierde la salud o se empeora con un procedimiento bien o mal llevado a cabo, lo que es más delicado, la situación es completamente diferente y trágica.

Lo dicho es lo básico que requiere el ente físico del binomio. Hay un número considerable de médicos convencidos de que dichos conocimientos y destrezas protegidos con una buena sombrilla de seguros, es todo lo que se necesita para practicar medicina de calidad. Para mi entender eso es un científico que aplica su sabiduría en un láboratorio de seres humanos enfermos.

Vamos al elemento ESPIRITUAL de binomio. Éste se manifiesta por medio de los valores humanos conocidos como virtudes.

Un concepto claro de lo que son las VIRTUDES y la persistencia en aplicarlas, eventualmente lleva a comprender el sentir y la actitud del paciente y su familia ante la realidad que conlleva la hospitalización. En ese ambiente surge el entendimiento estético de esa realidad que sufre el paciente. Es lo mismo decir que al entender esa realidad, eventualmente el médico desarrolla la empatía, si es que no la posee ya. Nos referimos a la sensibilidad que posee o desarrolla un ser humano que lo capacita para percibir y entender el sufrimiento y la ansiedad expresadas o no expresadas por un ser humano que pasa por una experiencia peligrosa. No es identificarse a sufrir con el paciente. ¡No! Es percibir y comprender, es caridad, la virtud básica.

La realidad que es el vivir la forja el ser humano cuando está en condición para responder al contorno. En ese ambiente están ubicados su hogar, su familia, su trabajo, vecinos, sitios de recreación y de enseñanza. En el ambiente del hogar y el trabajo se meditan proyectos e ilusiones hacia un futuro mejor. Hay salud para combatir las desilusiones y contratiempos.

De súbito, se enferma de gravedad el proveedor del hogar y se admite a un hospital. Pierde el contacto con su contorno habitual y siente gran ansiedad, inquietud, torpeza, indecisión; se siente fuera de ambiente. Le han detenido abruptamente. Ya no vive, sólo existe. Está sujeto a las decisiones de su médico y la voluntad del familiar más cercano. Está arisco, incómodo, adolorido en un cuarto estrecho y en una cama que no es la suya. Es su primera experiencia con una hospitalización. Sabe que puede morir. Tan sólo tiene una fijación: recobrar la salud.

En este sentido nuestra profesión es única por el hecho de que las circunstancias que genera el ser humano enfermo son únicas. El médico está llamado a profesar una dedicación persistente de por vida a la práctica de la medicina con el propósito de prevenir, de curar o de aliviar, según sea el caso. La actitud y actuación del médico es crucial. Especialmente, esa primera impresión que es apta a mejorar o empeorar la ansiedad del paciente y la familia.

LA ACTUACION PROFESIONAL

El médico está consciente que no existen dos seres humanos idénticos. La estructura cromosómica es única y personal evitando así el doblaje del aspecto físico. También hace diferente al individuo la manera como responde al contorno su personalidad. Ésta, a su vez, depende de su cuna, su grado de inteligencia, su educación, posición socio-económica y sus proyectos. De ahí el refrán: "Cada persona es un mundo aparte".

El propósito de enfatizar la unicidad del ser humano es crear consciencia en el estudiante de la necesidad de acoplar temprano en la residencia los valores humanos en sus relaciones con los pacientes. Es imprescindible iniciar temprano dicha auto enseñanza. La diversidad de caracteres de los pacientes y la infinidad de situaciones que pueden surgir obligan al médico a envolverse temprano. Es así como surge pronto la actitud profesional que automáticamente produce las proporciones adecuadas del binomio Físico - Espiritual.

Al paciente se le agudiza la intuición cuando peligra su salud. Capta si el médico entiende su problema y se preocupa por sacarlo de ese atolladero. Si lo que hace es actuar el papel del médico comprensivo, también lo presiente.

El médico brusco, antipático, introvertido, monosilábico que se molesta con facilidad es tolerado por el paciente y la familia cuando es el único en esa especialidad en la comunidad. El que actúa y no lo siente se acepta mejor, pero no convence en su demostración de empatía.

¿Cómo capta el paciente que el médico actúa movido por la empatía? ¿Cómo lo distingue de otros también diestros y doctos en la materia?

Ya sea en una consulta o la admisión del paciente a su servicio, esa primera impresión es importante porque es dificil de borrar. En el caso de la consulta, antes de tocar el expediente clínico procede el identificarse con la familia y el paciente. Examina al paciente en privado siempre con la enfermera presente. No adelanta ninguna información al paciente ni a la familia por razón de que él no es el médico de cabecera. No importa los hallazgos en su examen, les informa con delicadeza que necesita dialogar con su médico antes de llegar a una conclusión. Se despide del paciente y la familia. Tanto del médico de cabecera como del

consultado notan que viste formal pero sencillo, aseado. Sin apuros ni aspavientos. Tranquiliza al paciente con el tono de su voz, la pulcritud del lenguaje sencillo que usa, los gestos, el grado de paciencia cuando el paciente se pone dificil, la delicadeza al examinar.

Si el paciente se restablece o no, jamás se olvida él o la familia; por que amor con amor se paga. Incluye también el paciente que esa actuación del médico no se puede saldar con dinero y añade a los estipendios un cariño persistente y permanente.

Cuando se hace buen uso de la inteligencia, se llega a entender la necesidad de cimentar sobre las virtudes nuestro comportamiento con los pacientes. La misión transcendental impuesta a nuestra profesión lo exige así.

¿Cuáles son esas virtudes que debemos enraizar en la práctica de la profesión y cuáles son los vicios y actitudes a evitar? Cuando se hace buen uso de la inteligencia se adquieren conocimientos que llevan a aceptar y practicar los valores humanos. Y a la luz de las experiencias de la vida, nos vamos dando cuenta de lo necesarias que son para convivir.

En las relaciones humanas, especialmente en la práctica de nuestra profesión, se rehúye a la persona arrogante y altanera. Éste es el individuo escaso de comprensión y propenso a la ira. Al enojarse pierde el control y se le zafan expresiones vulgares. El médico que envidia la inteligencia, la posición y los bienes de los demás tiende a caer en la codicia y termina corriéndose riesgos con el fin de acumular riquezas. Al otro extremo de ése está el perezoso. Éste llega tarde a las reuniones, a la sala de operaciones o la de parto, a su oficina. Éste es el que no vive su profesión, es un irresponsable. El lujurioso tarde o temprano se mete en líos. Que no se olvide nunca que el paciente capta o presiente cuándo se le está tocando y cuándo es examinado. Esta noble profesión no merece ser llevada a tan bajos niveles.

Los médicos debemos siempre actuar con prudencia. La prudencia no es cobardía, ni recelos, ni cautela, es actuar con mesura, serenidad y sensatez. Desarrollar tacto para dar malas noticias. Guardar con celo y discreción la información íntima que nos confía el paciente, es obrar con prudencia. Ser ecuánime, o sea tratar con igual ánimo a todos sus pacientes. No hacerlo sería una imprudencia. Lo prudente es tratarlos a todos por igual, con la misma cortesía, respeto y afabilidad, porque aunque todos son diferentes pasan sufriendo la misma realidad.

Para persistir serenamente en el cumplimiento de lo que entiende el médico que es su deber según su conciencia, es necesario cultivar la fortaleza espiritual. La fortaleza ayuda a la voluntad a rechazar todo lo que no sea prudente y justo en la relación medico-paciente. Para coger conciencia y fortalecerla, practique la discreción, la paciencia y la ecuanimidad en todo momento, especialmente en la situación dificil, que es donde uno se crece.

Recuerden que lo justo no es tan sólo exigir lo que me pertenece. Es también rechazar lo que no nos pertenece. Pero aun así es una justicia con anemia espiritual. La verdadera justicia lleva consigo la preocupación de que los demás obtengan aquello a lo cual tienen derecho.

La templanza o temperancia ayuda a la voluntad a rechazar aquellos casos que nos atraen pero perjudican. Si cedemos hacen daño. Ayuda a mantenernos tranquilos, guardar nuestros modales en una situación embarazosa, a nunca perder el poder de razonar.

Es prudente el que admite y rectifica sus errores, no obra precipitadamente, pero actúa con prontitud cuando el caso lo requiere. La prudencia es sencilla y se manifiesta con naturalidad.

Responder a la injusticia, a la calumnia con la benevolencia es lo que identifica la grandeza en el ser humano. Cuando viene de parte de su paciente entonces esa actitud benévola es siempre lo correcto.

Cuando usted actúa de la manera correcta surge la fe en usted de parte de su paciente y familiares. Usted tambien tiene fe en sus conocimientos y recursos profesionales dentro de su especialidad. Usted está al día. Cuando surge esa fe en el paciente es porque se ha establecido la comunicación de intimidad a intimidad. Ya hay empatía. El paciente presiente que usted sabe lo que está haciendo. De ahí surge la esperanza en el paciente, se tranquiliza, coopera y está en una actitud positiva. Prudencia es también saber cuando hay que consultar, cuando referir.

Usted trató al paciente con magnanimidad, o sea, con un ánimo magno. Se usó la fortaleza que impuso a la voluntad a salirnos de nosotros mismos para adentrarnos en la preocupación íntima del paciente actuando sin cicatería ni cálculos egoístas. O sea, que le hemos dado prioridad a ofrecerle un servicio profesional de calidad. Es un servicio con caridad que no necesariamente quiere decir lo que llamamos "charity". Los pilares que sostienen la buena práctica de la medicina son la caridad con amor.

Decía el poeta Rabindranah Tagore:

> "Dormía y soñaba que la vida era alegría.
> Desperté y vi que la vida era servicio
> Serví y vi que el servicio era alegría"

En un servicio profesional que se mantenga la sintonía con ese eslabón vital que es la empatía médico-paciente, no habrá burocracia, por más poderosa que sea, que pueda interponerse entre ellos dos.

Termino con un hecho histórico apto para la meditación. Dios crea al ser humano y le pide que le ame a El sobre todas las cosas creadas. Es el primer mandamiento de una lista que dice cómo comportarnos. Fallamos. Es que el amor no se puede exigir, ni comprar, ni forzar. El amor surge de la motivación. Que haya motivo para amar y para eso tenemos que conocernos íntimamente. Así lo hizo el Creador y por eso nos dio el libre albedrío, la voluntad para decidir. ¿No le conoces? Entonces tu último recurso es la fe. Por esa razón retorna en la forma de Cristo, en esa forma enseñaba el camino que lleva irremediablemente a amar a Dios sobre todas las cosas y al prójimo como a ti mismo. Repito: y al prójimo como a ti mismo. Esta vez nos dejó un modo para que sean perdonados nuestros deslices dándonos oportunidad de ir a su lado hasta la misma hora de la muerte. Para conseguir eso fue inmolado el cuerpo de Cristo. El resto del tiempo lo usó Cristo para ejercer la medicina, curaba al instante. ¿Estipendios? La fe. La fe que demostraba el paciente en que Él podía hacerlo. Los evangelios describen un número de casos, pero declaran que fueron cientos. Por eso a Cristo se le llama también El Divino Médico. Pero dejó claro que no podemos llamarle colega. Nosotros nunca hemos resucitado a nadie a los cuatro días después de muerto, como fue el caso de Lázaro uno de tres.

Hay algo más. Poco después de Cristo retornar al Padre, se escribieron cuatro evangelios. De tres fueron autores apóstoles pescadores, el otro lo escribió un médico, San Lucas, hijo de familia acomodada de Antioquía. Le atraía también la filosofía y participaba en las reuniones de los filósofos griegos. En uno de esos viajes oyó a Pablo y lo siguió. Como buen científico estuvo cerca de un año en Israel corroborando lo que había oído. Le dio especial atención al relato de las mujeres envueltas en la vida de Cristo. Actuó como se espera de un profesional. ¿Por qué un médico? Era una época de grandes filósofos, oradores, tribunos, arquitectos, escritores e historiadores. ¿Hay un mensaje? Para mí lo hay. Viene como a ponerle un sello a lo dicho anteriormente.

Definitivamente no es la profesión con el propósito en mente de enriquecerse, ni para adquirir poder y prominencia social. Esto sería aceptable si surgiera por su cuenta, sin buscarlo, cuando usted cobra lo correcto por su servicio.

El cuidado médico es una dedicación constante, de por vida, a la práctica de la medicina, con el propósito de prevenir o de curar. No siendo posible, entonces aliviar. Para lo que no hay licencia es para matar. Sólo el que da la vida puede llevársela.

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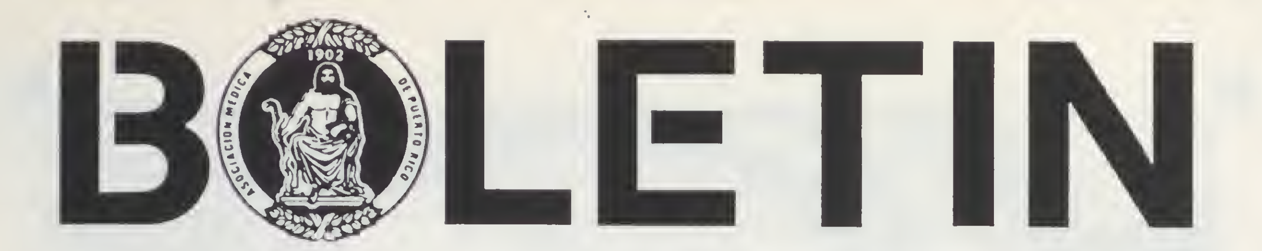
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Instrucciones para los Autores*

El Boletín acepta para su publicación artículos relativos a medicina y cirugía y las ciencias afines. Igualmente acepta artículos especiales y correspondencia que pudiera ser de interés general para la profesión médica.

Se urge a los autores se esfuercen en perseguir claridad, brevedad, e ir a lo pertinente en sus manuscritos, no importa el tema o formato del manuscrito.

El artículo, si se aceptara, será con la condición de que se publicará únicamente en la revista.

Para facilitar la labor de revisión de la Junta Editora y la del impresor, se requiere de los autores que sigan las siguientes instrucciones:

Manuscrito

El manuscrito completo, incluyendo las leyendas y referencias deberán estar escritos en maquinilla a doble espacio; por un sólo lado de cada página, en TRIPLICADO y con amplio margen. En página separada deberá incluirse lo siguiente: título, nombre de autor(es) y su grado (ej.: MD, FACP), ciudad donde se hizo el trabajo, el hospital o institución académica, patrocinadores del estudio, y si un artículo ha sido leído en alguna reunión o congreso, así debe hacerse constar como una nota al calce.

El manuscrito debe comenzar con una breve introducción en la cual se especifique el propósito del mismo. Las secciones principales (como por ejemplo: materiales y métodos) deben identificarse con un encabezamiento en letras mayúsculas.

Artículos referentes a resultados de estudios clínicos o investigaciones de laboratorio deben organizarse bajo los siguientes encabezamientos: Introducción, Materiales y Métodos, Resultados, Discusión, Resumen (en español e inglés), Reconocimiento y Referencias.

Artículos referentes a estudios de casos aislados deben organizarse en la siguiente forma: Introducción, Materiales y Métodos si es aplicable, Observaciones del Caso, Discusión, Resumen (en español e inglés), Reconocimientos y Referencias.

Nomenclatura

Deben usarse los nombres genéricos de los medicamentos. Podrán usarse también los nombres comerciales, entre paréntesis, si así se desea. Se usará con preferencia el sistema métrico de pesos y medidas.

Tablas

Las tablas deben aparecer en hojas separadas. Estas deben incluir el título, y el número de la tabla debe estar en romano. Los símbolos de unidades deben limitarse al encabezamiento de las columnas. Se deben omitir líneas verticales en la tabla. Se usará en las tablas el mismo idioma en el cual está escrito el artículo. Deben limitarse las tablas a sólo aquellas que contribuyan al mejor entendimiento del manuscrito.

Ilustraciones

Las fotografías y microfotografías se someterán como copias en papel de lustre, sin montar o en transparencias. En el reverso de la figura debe aparecer el número de la figura (arábigo) y el autor. Debe indicarse la parte superior de la ilustración.

Resumen

Un abstracto no mayor de 150 palabras debe acompañar los manuscritos. Debe incluir los puntos principales que ilustren la substancia del artículo y la exposición del problema, métodos, resultados y conclusiones.

Referencias

Las referencias deben ser numeradas sucesivamente de acuerdo a su aparición en el texto. Los números deben aparecer en paréntesis al nivel de la línea u oración. Al final de cada artículo las referencias deben aparecer en el orden numérico en que se citan en el texto. Deben utilizarse solamente las abreviaturas para títulos de revistas científicas según indicadas en el "Cumulative Index Medicus" que publica la Asociación Médica Americana. Las referencias deben seguir el patrón que se describe a continuación.

1. Para artículos de revistas: Apellido(s) e iniciales del nombre del autor(es), título del artículo, nombre de la revista, año, volumen, páginas. Por ejemplo:
   Villavicencio R: Soplos inocentes en pediatría, Bol Asoc Méd P Rico 1981; 73: 479-87
   Si hay más de 7 autores, incluir los primeros 3 y añadir et al.
2. Para citación de libros donde el autor(es) del capítulo citado es a su vez el (los) editor(es): Apellido(s) e iniciales del autor(es), título del libro, número de edición, ciudad, casa editora, año y página. Por ejemplo:
   Keith JD, Rowe RD, Vlad P: Heart disease in infancy and childhood, 3d. Ed., New York, MacMillan, 1978: 789
3. Para citación de libros donde el editor(es) no es el autor(es) del capítulo citado se añade el autor(es) del capítulo y el título del mismo. Por ejemplo:
   Olley PM: Cardiac arrythmias; In: Keith JD, Rowe RD, Vlad P Eds. Heart disease in infancy and childhood, 3d Ed., New York, MacMillan, 1978: 275-301

Cartas al Editor

Se publicarán a discreción de la Junta Editora. Deben estar escritas en maquinilla a doble espacio, no deben ser mayores de 500 palabras, ni incluir más de cinco referencias.

**Estas "Instrucciones para los Autores" son de acuerdo a las normas establecidas por el Comité Internacional de Editores de Revistas Médicas en sus]Requisitos Uniformes para Manuscritos Sometidos a Revistas Bio-Médicas".*

Instructions to Authors*

The Bulletin will accept for publication contributions relating to the various areas of medicine, surgery and allied medical sciences. Special articles and correspondence on subjects of general interest to physicians will also be accepted. All material is accepted with the understanding that is to be published solely in this journal.

All authors are urged to seek clarity, brevity, and pertinence in the manuscripts regardless of subject or format.

In order to facilitate review of the article by the Editorial Board and the work of the printer, the authors must conform with the following instructions:

Manuscripts

The entire manuscript, including legends and references should be typewritten double spaced in TRIPLICATE with ample margins. A separate title page should include the following: title, authors and their degrees (e.g. MD, FACP), city where the work was done, hospital or academic institurions, acknowledgement of financial sponsors, and if the paper has been at a meeting the place and date should be given.

The manuscripts should start with a brief introductory paragraph or paragraphs which should state its purpose. The main sections (for example, Materials and Methods) should be identified by heading in capital letters.

Articles reporting the results of clinical studies or laboratory investigation should be organized under the following headings: Introduction, Material and Methods, Results if indicated, Discussion, Summary in English and Spanish, Acknowledgments if any, and References.

Nomenclature

Generic names of drugs should be used; trade names may also be given in parenthesis, if desired. metric units of measurement should be used preferentially.

Tables

These should be typed on separate sheets with the title and table number (Roman) centered. Symbol for units should be confined to the column headings. Vertical lines should be omitted. The language used in the tables must be the same as that of the article. Include only those tables which will enhance the understanding of the article. They should supplement, not duplicate the text.

Figures

Photographs aand photomicrographs shoul be submitted as glossy prints, (unmounted) or slides. They should be labeled in the back with the name of the aaauthors and figure number (Arabic) and the top should be indicated. legend to the figures should be typed on a separate sheet.

Summary

An abstract not longer than 150 words should accompany all articles. it must include the main points that present the core of the article and the exposition of the problem, method, results, and conclusions.

References

These should be numbered serially as they appear in the text. The number should be enclosed in parenthesis on the line or writing and not as superscript numbers. At the end of the article references should be listed in the numerical order in which they are first cited in the text. The titles of journals should be abbreviated according to the style used in the "Cumulative Index Medicus" published by the American Medical Association. The correct forms of references are as given below:

1. For periodicals: Surname and initials of author(s), title of article, name of journal, year, volume, pages. For example:
   Villavicencio R.: Soplos inocentes en pediatría. Bol Asoc Méd P Rico 1981; 73: 479-87
   If there are more than 7 authors list only 3 and add et al.
2. For books when the authors of the cited chapter is at the same time the editor: Surname and initials of author(s), title, edition, city, publishing house, year and page. For example:
   Keith JD, Rowe RD, Vlad P: Heart disease in infancy and childhood, 3d Ed., New York, MacMillan, 1978: 789
3. For chapter in book when the author of the chapter is not one of the editors:
   Olley PM: Cardiac arrythmias: In: Keith JD, Rowe RD, Vlad P. Eds. Heart disease in infancy and childhood, 3d Ed. New York, MacMillan, 1978, 275-301

Letters to the Editor

Will be published at the discretion of the Editorial Board. They should be typewritten double-spaced, should not exceed 500 words nor more than five references.

**The above "Instructions to Authors" are according to the format required by the International Committee of medical Journal Editors in its "Uniform Requirements for Manuscripts Submitted to Biomedical Journals".*

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